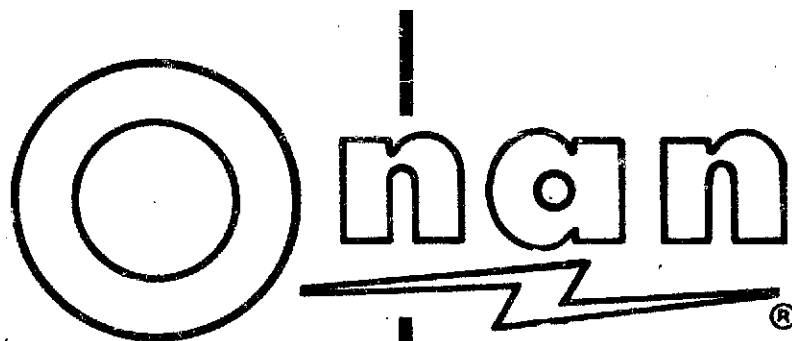


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OPERATORS MANUAL AND PARTS CATALOG

FOR



ONAN ELECTRIC GENERATING SETS

MDJB

SERIES

GENERAL INFORMATION

INSTRUCTIONS FOR ORDERING REPAIR PARTS

For parts or service, contact the dealer from whom you purchased this equipment or refer to your Nearest Authorized Onan Parts and Service Center.

To avoid errors or delay in filling your parts order, please furnish all information requested.

Always refer to the nameplate on your unit.

1. Always give the MODEL, SPEC NO. and SERIAL NO.

McGRAW-EDISON

Onan

MODEL AND SPEC NO.

SERIAL NO.

M-1149

For handy reference, insert "YOUR" nameplate information in the spaces above.

2. Do not order by reference number; always use part number and description.
3. Give the part number, description and quantity needed of each item. If an older part cannot be identified, return the part prepaid to your dealer or nearest Onan Parts and Service Center. Print your name and address plainly on the package. Write a letter to the same address stating the reason for returning the part.
4. State definite shipping instructions. Any claim for loss or damage to your unit in transit should be filed promptly against the transportation company making the delivery. Shipments are complete unless the packing list indicates items are back ordered.

Prices are purposely omitted from this Parts Manual due to the confusion resulting from fluctuating costs, import duties, sales taxes, exchange rates, etc.

For current parts prices, consult your Onan Dealer, Distributor or Parts and Service Center.

"En esta lista de partes los precios se omiten de proposito, ya que bastante confusion resulto de fluctuaciones de los precios, derechos aduanales, impuestos de venta, cambios extrajeros, etc."

Consiga los precios vigentes de su distribuidor de productos "ONAN."

FICHE LOCATION

ILLUSTRATION

A4	*****	Data Table
B1	*****	Air Cleaner & Fuel Filter Group
B6	*****	Automotive Starter Group
A8	*****	Camshaft Group
B13	*****	Control Group
A5	*****	Crankcase & Oil Base Group
A8	*****	Crankshaft & Flywheel Group
A7	*****	Cylinder Head Valve & Rocker Group
A13	*****	Fuel Transfer Pump & Injection System Group
A10	*****	Gear Cover & Water Pump Group
B7	*****	Generator Group - Alternator Portion
C1	*****	Generator Group - Exciter Portion
B3	*****	Governor Group
B9	*****	Heat Exchanger Group
B4	*****	Manifold & Thermostat Group
A12	*****	Oil System Group
A9	*****	Piston & Connecting Rod Group
C3	*****	Service Kits & Miscellaneous
C3	*****	Sound Shield Housing Group - Optional
B11	*****	Special Parts For Keel Cooling Models
B5	*****	Start-Disconnect Plate & Stop Solenoid Group
B8	*****	Starter Motor Parts Group
A11	*****	Water Pump Parts Group (132B59) - Spec A-K Only
A11	*****	Water Pump Parts Group (132B152 & 131K182) - Begin Spec L & Replaced Pump - Spec A-K
B12	*****	Water Pump Parts Group (132B110)
B12	*****	Water Pump Parts Group (132C74)

SPECIAL PARTS SECTION FOR WORKBOAT MODELS

C5	*****	Control Group
C4	*****	Fuel System Group
C5	*****	Heat Exchanger Group
C5	*****	Water Pump Drive Group

This catalog applies to the standard MDJB Generating Sets as listed below. Parts are arranged in groups of related items. Each illustrated part is identified by a reference number corresponding to the same reference number below the illustration. Parts illustrations are typical. Using the *Model* and *Spec No.* from the set nameplate, select the parts that apply to your set. Unless otherwise mentioned in the description, parts are interchangeable between models. Right and left set sides are determined by facing the engine end (front) of the set.

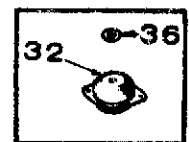
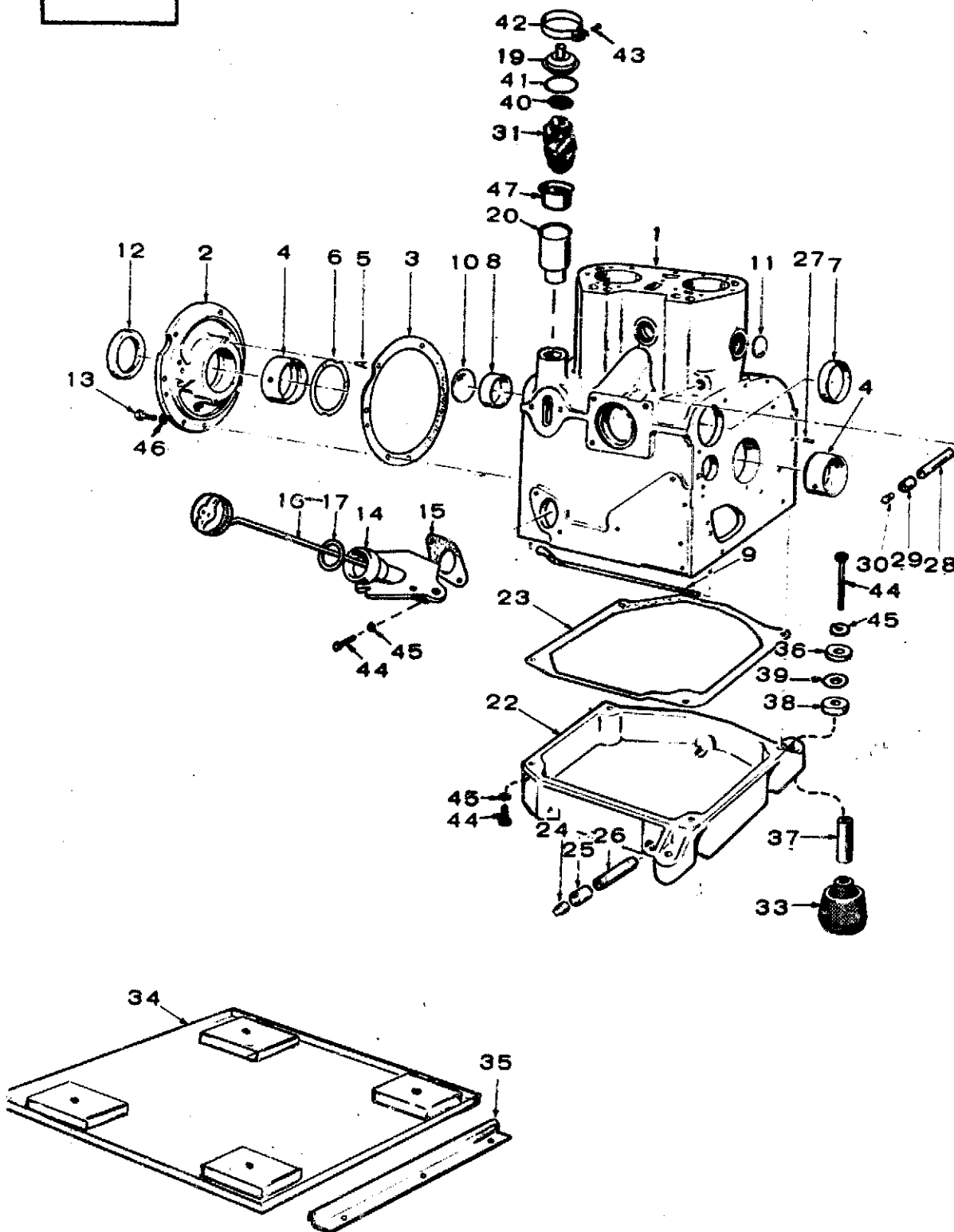
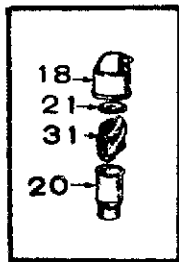
GENERATOR SET DATA TABLE

MODEL & SPEC NO. †	ELECTRICAL DATA					PARTS KEY NO.
	WATTS	VOLTS	HERTZ	WIRE	PHASE	
6.0MDJB-3CR/**	6000	120/240	60	↓	1	1
6.0MDJB-4R/*	6000	120/208	60	4	3	1
6.0MDJB-5DR/*	6000	120/240	60	4	3	1
5.0MDJB-53CR/*	5000	120/240	50	↓	1	1
5.0MDJB-54R/*	5000	120/208	50	4	3	1
5.0MDJB-55DR/*	5000	120/240	50	4	3	1
6.0MDJB-3CR3/* ★	6000	120/240	60	↓	1	2
5.0MDJB-53CR3/*★	5000	120/240	50	↓	1	2
6.0MDJB-3CR4/*£	6000	120/240	60	↓	1	2
5.0MDJB-53CR4/*£	5000	120/240	50	↓	1	2
(Workboat Model) SEE SPECIAL SECTION at rear of book.						

- * - The Specification Letter advances (A to B, B to C, etc.) with manufacturing changes.
- ** - This column applies also to 6.0MDJB-1R/ (which is early model connected for 120 volt 2 wire service).
- *** - These generators have four load wires which are reconnectable for 120 volt 2 wire service, or 240 volt 2 wire service, or 120/240 volt 3 wire service. NOTE: Previously the "C" was not used in the model designation.
- £ - These units have 32 volt DC system for engine requirements only (not auxiliary DC loads).
- ★ - These units have 24 volt DC system for engine requirements only (not auxiliary DC loads).
- † - New model designations shown, begin during 1969. Previous designations did not use a decimal in the KW rating. EXAMPLE: 6.0MDJB was formerly 6MDJB.

NOTE: Hertz is a unit of frequency equal to one cycle per second.

CRANKCASE AND OIL BASE GROUP



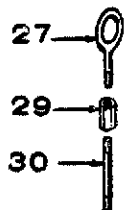
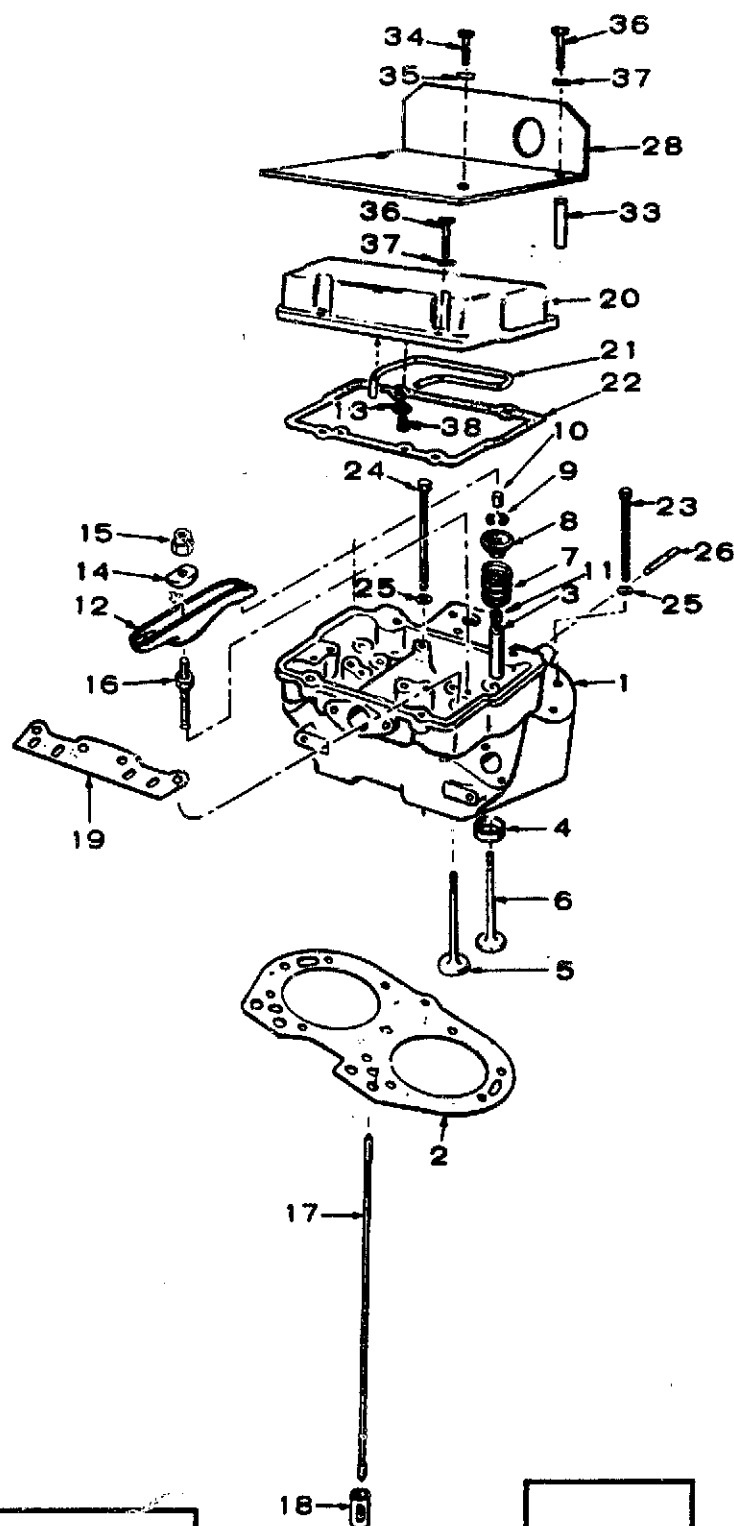
REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
1	110-1306	1	Block Assembly, Cylinder (Includes Parts Marked *)
2	101-0337	1	*Plate, Bearing - Less Bearing and Pins
3	101-0386	1	*Gasket Kit, Rear Bearing Plate (Includes Steel Shims)
4	BEARING (PRECISION), MAIN - FRONT OR REAR		
	101-0359	2	Standard
	101-0359-02	2	.002" Undersize
	101-0359-10	2	.010" Undersize
	101-0359-20	2	.020" Undersize
	101-0359-30	2	.030" Undersize
5	516-0072	4	*Pin, Lock - Thrust Washer
6	104-0420	2	*Washer, Crankshaft Thrust
7	101-0363	1	*Bearing (Precision), Camshaft Front - Standard Only
8	101-0365	1	*Bearing (Precision), Camshaft Rear - Standard Only
9	120-0553	1	*Tube, Crankcase Oil
10	517-0053	1	*Plug, Expansion - Rear Camshaft Opening
11	*PLUG, EXPANSION - CYLINDER BLOCK		
	517-0059	3	1-7/16" Diameter
	517-0096	1	1-9/16" Diameter
12	509-0086	1	Seal, Oil - Rear Bearing Plate
13	805-0019	6	*Bolt, Place, Rear Bearing Plate (3/8-16 x 1-1/4")
14	TUBE, OIL FILL		
	123-0681	1	Spec A through R
	123-1085	1	Begin Spec S
15	123-0667	1	Gasket, Oil Fill Tube Mounting
16	CAP AND INDICATOR, OIL FILL		
	123-0651	1	Spec A through R
	123-1058	1	Begin Spec S
17	123-0191	1	Gasket, Oil Fill Cap
18	CAP, BREATHER TUBE		
	123-0458	1	Spec A through F
	123-0787	1	Spec G through R
19	123-1203	1	Cap & Valve Assembly, Breather - Begin Spec S
20	TUBE, BREATHER		
	123-0645	1	Spec A through R
	123-0952	1	Begin Spec S
21	123-0315	1	Valve, Breather - Spec A through R
22	BASE, OIL		
	102-0450	1	Spec A through G
	102-0540	1	Begin Spec H
23	102-0451	1	Gasket, Oil Base
24	505-0056	1	Plug (1/2") - Oil Drain
25	505-0014	1	Coupling (1/2") - Oil Drain

REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
26	505-0002	1	Nipple (1/2 x 3") - Oil Drain
27	516-0141	2	*Pin, Dowel - Gear Cover Locating
28	505-0449	1	Nipple (1/4 x 6") - Water Drain
29	505-0027	1	Coupling (1/4") - Water Drain
30	502-0153	1	Plug (1/4" - Hex Head) - Water Drain
31	123-0865	1	Baffle, Breather Tube
32	CUSHION, VIBRATION - CENTER FLANGE (Lord Mount)		
	402-0242	2	Engine End - Spec A through G
	402-0245	2	Generator End - Spec A through G
	402-0244	2	Generator End - Heat Exchanger Models - Spec A through G
33	CUSHION, VIBRATION - CONE SHAPED		
	402-0284	2	Engine End - Begin Spec H
	402-0285	2	Generator End - Begin Spec H
34	PAN, DRIP		
	405-1264	1	Spec A through G
	405-1402	1	Begin Spec H
35	405-1265	2	Clamp, Drip Pan Hold-down
36	WASHER, MOUNTING RUBBER - STEEL		
	526-0182	8	Upper & Lower (17/32" x 2-7/8" x 1/4") - Spec A through G
	526-0014	4	†Begin Spec H
37	402-0290	4	†Bushing, Cushion Mounting Spacer - Begin Spec H
38	402-0282	4	†Snubber, Shock Mounting - Begin Spec H
39	526-0198	As Req.	†Washer, (29/64" I.D. x 1-1/2" x 1/16") - Begin Spec H
40	123-0958	1	Screen, Breather Tube - Begin Spec S
41	509-0117	1	Seal, "O" Ring - Breather Tube - Begin Spec S
42	123-0951	1	Clamp, Breather Tube - Begin Spec S
43	809-0035	1	Screw, Breather Clamp - Begin Spec S
44	SCREW, HEX CAP		
	800-0081	4	†Plant Mounting
	800-0072	4	Oil Base Mounting
	800-0026	2	Oil Fill Tube & Bracket Mtg.
45	WASHER, LOCK		
	850-0055	4	†Plant Mounting
	850-0055	4	Oil Base Mounting
	850-0045	2	Oil Fill Tube & Bracket Mtg.
46	526-0245	6	Washer, Flat (3/8") - Rear Bearing Plate
47	123-1153	1	Baffle Cup & Holder
	402-0292	4	Hardware Set, Mounting - (Includes Parts Marked †)

* - Included in Cylinder Block Assembly.

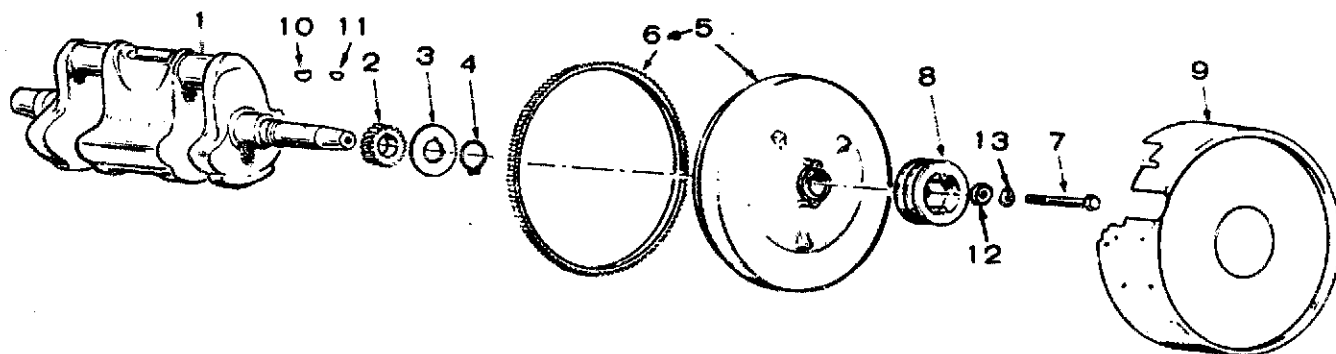
† - Included in Mounting Hardware Set.

CYLINDER HEAD VALVE AND ROCKER GROUP



REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
1	HEAD, CYLINDER (Includes Parts Marked *)		
	110-1859	1	Units WITHOUT Heat Exchanger
	110-1858	1	Units WITH Heat Exchanger
2	110-2944	1	Gasket, Cylinder Head
3	110-1501	4	*Guide, Valve
4	INSERT, VALVE SEAT - INTAKE & EXHAUST (STELLITE)		
	110-1268	4	*Standard
	110-1268-02	4	.002" Oversize
	110-1268-05	4	.005" Oversize
	110-1268-10	4	.010" Oversize
	110-1268-25	4	.025" Oversize
5	110-1320	2	Valve, Intake
6	110-1278	2	Valve, Exhaust (Stellite)
7	110-1221	4	Spring, Valve
8	110-1220	4	Retainer, Valve Spring
9	110-0858	8	Lock, Valve Spring Retainer
10	110-0859	4	Cap, Valve Stem
11	509-0090	2	Seal Assembly, Oil - Intake Valve - (Includes Retainer Rings)
12	ARM, ROCKER		
	115-0128	2	Exhaust
	115-0129	2	Intake
13	526-0130	1	+Washer, Flat - Oil Line Mounting
14	115-0127	4	Ball, Rocker Arm
15	115-0150	4	Locknut, Hex - Rocker Arm
16	115-0152	4	Stud, Rocker Arm
17	115-0149	4	Rod, Valve Push - Steel
18	TAPPET, VALVE		
	115-0132	4	Spec A through N
	115-0195	4	Begin Spec P
19	115-0196	1	Guide, Push Rod
20	115-0134	1	Cover, Rocker (Includes Parts Marked +)
21	120-0628	1	+Line, Oil - Rocker Cover
22	115-0130	1	Gasket, Rocker Box
23	800-0501	6	Screw (3/8-16 x 3-3/8")
24	110-1264	5	Screw (3/8-16 x 4-1/4")
25	526-0174	7	Washer, Cylinder Head Screw
26	520-0608	4	Stud, Exhaust Manifold
27		1	Bolt, Lifting - Order #403-0707
28	403-0707	1	Bracket, Lifting (Includes Hardware)
29	110-1303	1	Nut, Extension (Only Sets with Lifting Eye)
30	520-0622	1	Stud, Cylinder Head - (Only Sets having Lifting Eye and Extension Nut)
31	PLUG, GLOW - INCLUDES GASKET		
	333-0106	2	Key 1, (12 Volt)
	333-0112	2	Key 2, (32 Volt)
	333-0107	2	Key 2, (24 Volt)
32	110-0546	2	Gasket, Glow Plug
33	403-0826	2	Spacer, Lifting Bracket (Not Used on Early Models)
34	800-0091	1	Screw (1/2-13 x 1-1/4") - Lifting Bracket Mounting
35	850-0060	1	Washer, Lock (1/2)
36	SCREW, HEX CAP		
	800-0030	2	Rocker Cover Mounting - 5/16-18 x 1-1/4"
	800-0038	2	Lifting Bracket Mounting - 5/16-18 x 3-1/4"
37	850-0045	4	Washer, Lock (5/16)
38	809-0042	1	+Screw, Oil Line, Rocker Cover

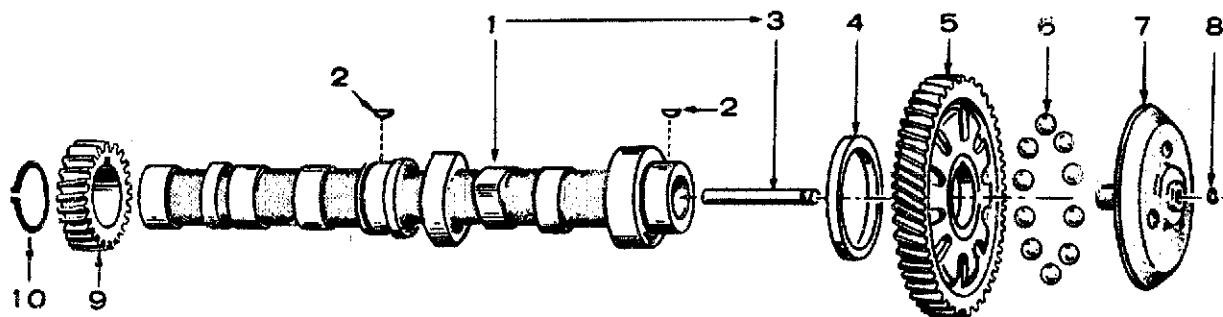
* - Included in Cylinder Head Assembly.
+ - Included in Rocker Cover Assembly.



CRANKSHAFT AND FLYWHEEL GROUP

REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
1	104-0451	1	Crankshaft
2	104-0418	1	Gear, Crankshaft
3	104-0416	1	Washer, Retainer
4	518-0188	1	Ring, Lock
5	104-0448	1	Flywheel (Includes Ring Gear)
6	104-0423	1	Gear, Ring - Flywheel
7	800-0500	1	Screw (7/16-14 x 5-1/2") - Flywheel Mounting

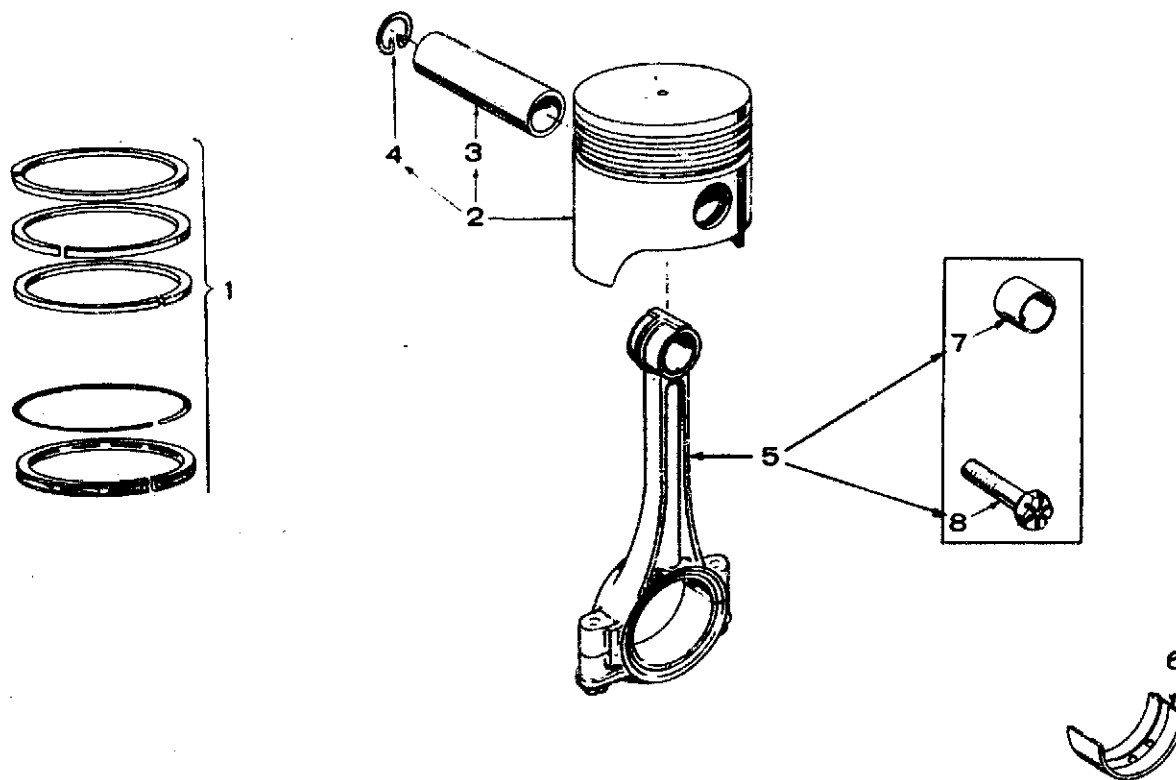
REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
8	PULLEY, FLYWHEEL - UNITS WITH HEAT EXCHANGER OR KEEL COOLING		
	104-0449	1	Spec A through F
	104-0550	1	Begin Spec G
9	104-0444	1	Guard, Flywheel
10	515-0001	1	Key, Gear Mounting
11	KEY, FLYWHEEL TO CRANKSHAFT		
	515-0002	1	Spec A Only
	515-0153	1	Begin Spec B
12	526-0185	1	Washer, Flywheel Mounting
13	850-0055	1	Washer, Lock (7/16")



CAMSHAFT GROUP

REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
1	CAMSHAFT, INCLUDES PIN		
	105-0221	1	Spec A through N
	105-0271	1	Begin Spec P
2	515-0001	2	Key, Camshaft Gear and Injection Pump Gear
3	150-0075	1	Pin, Camshaft Center
4	105-0205	1	Washer, Thrust

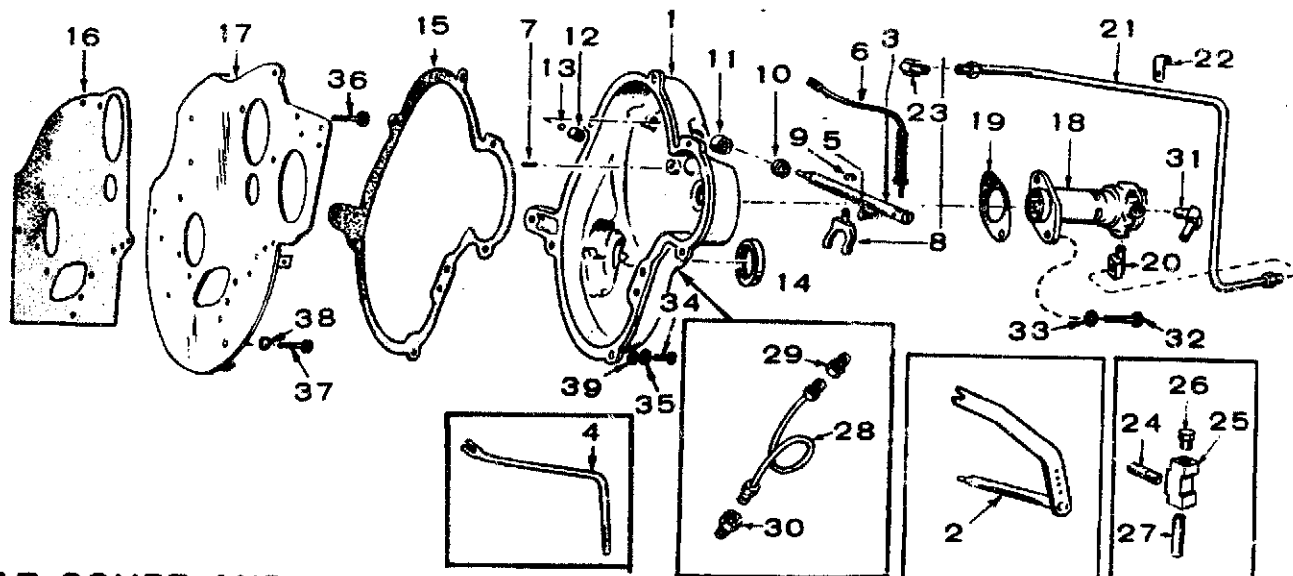
REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
5	105-0218	1	Gear, Camshaft (Includes Spacer & Plate)
6	510-0046	10	Ball, Fly - Governor
7	150-0775	1	Cup, Governor
8	150-0078	1	Ring, Snap - Center Pin
9	147-0142	1	Gear, Injection Pump Drive
10	518-0195	1	Ring, Snap - Injection Pump Drive Gear



PISTON AND CONNECTING ROD GROUP

REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
1	RING SET, PISTON		
	113-0130	2	Standard
	113-0130-05	2	.005" Oversize
	113-0130-10	2	.010" Oversize
	113-0130-20	2	.020" Oversize
	113-0130-30	2	.030" Oversize
	113-0130-40	2	.040" Oversize
2	PISTON & PIN - INCLUDES PIN RETAINING RINGS		
			Spec A through N
	112-0103	2	Standard
	112-0103-05	2	.005" Oversize
	112-0103-10	2	.010" Oversize
	112-0103-20	2	.020" Oversize
	112-0103-30	2	.030" Oversize
	112-0103-40	2	.040" Oversize
			Begin Spec P
	112-0109	2	Standard
	112-0109-05	2	.005" Oversize
	112-0109-10	2	.010" Oversize
	112-0109-20	2	.020" Oversize
	112-0109-30	2	.030" Oversize
	112-0109-40	2	.040" Oversize

REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
3	PIN, PISTON		
	112-0093	2	Standard
	112-0093-02	2	.002" Oversize
4	112-0085	4	Ring, Retaining
5	114-0168	2	Rod Assembly, Connecting (Forged)
6	BEARING HALF, CONNECTING ROD		
	114-0164	4	Standard
	114-0164-02	4	.002" Oversize
	114-0164-10	4	.010" Oversize
	114-0164-20	4	.020" Oversize
	114-0164-30	4	.030" Oversize
7	114-0170	4	Bushing, Piston Pin
8	805-0012	4	Bolt, Place (5/16-24 x 1-13/16")



GEAR COVER AND WATER PUMP GROUP

NOTE: For units with heat exchanger or keel cooling see separate group.

REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
1	COVER ASSEMBLY, GEAR - COMPLETE (INCLUDES PARTS MARKED *)	1	Prior to Serial #684869 - (Also order #150-0847 Governor Arm and #103-0251 Gear Cover Gasket)
	103-0267	1	Begin Serial #684869 Spec D Units Only (Also order #103-0251 Gear Cover Gasket)
	103-0267	1	Begin Spec E
2	150-0825	1	Arm and Shaft, Governor - Prior to Serial #684869 - (NOTE: order #150-0838 Governor Shaft and #150-0847 Arm)
3	150-0838	1	*Shaft, Governor - Begin Serial #684869
4	150-0847	1	Arm, Governor - Governor Shaft to Carburetor - (Used Serial #684869 through Spec Q)
5	815-0176	1	*Screw (#8-32 x 1/2") - Begin Serial #684869
6	150-1095	1	Arm, Governor - Begin Spec R
7	516-0111	1	*Pin, Roll - Governor Cup Stop
8	150-0777	1	*Yoke
9	518-0129	1	*Ring, Yoke Retaining - "E" Shaped
10	509-0088	1	*Seal, Oil - Governor Shaft
11	510-0048	1	*Bearing, 1/2" Shaft
12	510-0082	1	*Bearing, 1/4" Shaft
13	*BALL, BEARING - GOVERNOR SHAFT THRUST		
	510-0014	1	Spec A through D
	510-0043	1	Begin Spec E
14	509-0087	1	*Seal, Oil - Gear Cover
15	GASKET, GEAR COVER		
	103-0219	1	Spec A through D (For Cast Iron Cover)
	103-0251	1	Begin Spec E (For Die Cast Cover)
16	103-0218	1	Gasket, Backplate
17	103-0228	1	Backplate, Gear Cover
18	†PUMP, WATER		
	131-0182	1	**Spec A through K (Also Order 130-0628 Line)
	131-0152	1	Begin Spec L
19	131-0127	1	Gasket, Water Pump Mounting

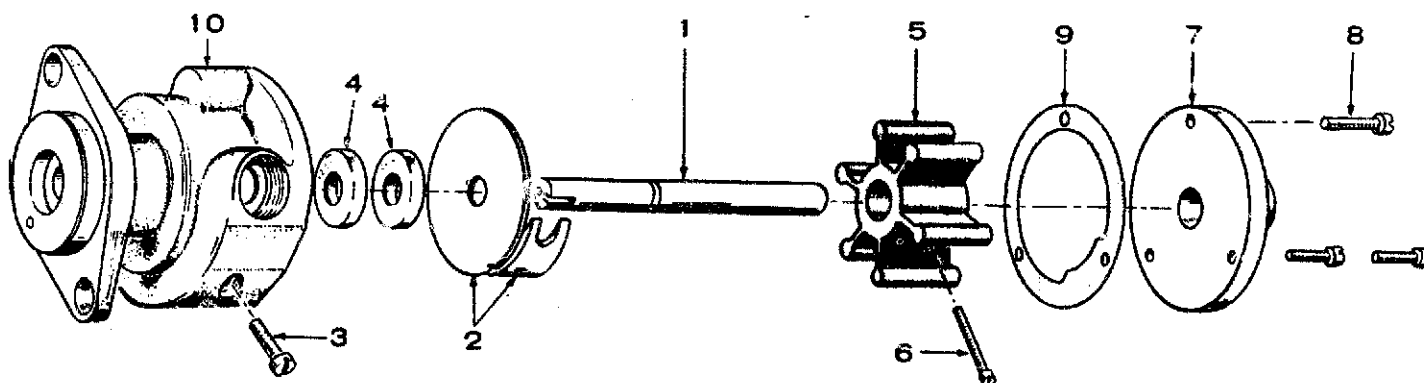
REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
20	502-0076	1	Elbow, Inverted Male - Water Pump Outlet
21	LINE, WATER - PUMP TO BLOCK		
	130-0509	1	Spec A through K
	130-0628	1	Begin Spec L
22	130-0511	1	Clamp, Water Line
23	502-0074	1	Elbow, Inverted Male - Water Line to Block
24	502-0047	1	Nipple, Close - Brass - Water Pump - Spec A through K
25	502-0157	1	Tee, Water Pump - Spec A through K
26	502-0153	1	Plug, Brass - Water Pump Tee Spec A through K
27	502-0256	1	Nipple, Water Pump Inlet - Spec A through K
28	120-0581	1	Line, Oil - Gear Cover (Early Spec A Units Only)
29	502-0235	1	Connector, Restricted - Upper - Oil Line (Early Spec A Units Only)
30	502-0030	1	Connector, Inverted Male - Lower Oil Line (Early Spec A Units Only)
31	ELBOW, WATER PUMP INLET		
	502-0304	1	Begin Spec L (Will work Spec A through K Units)
32	800-0006	2	Screw (1/4-20 x 7/8") - Pump Mounting
33	850-0040	2	Washer, Lock (1/4")
34	SCREW, GEARCOVER MOUNTING		
	800-0028	1	5/16-18 x 1"
	110-0879	4	5/16-18 x 1-1/4"
35	850-0045	5	Washer, Lock (5/16)
36	815-0347	2	Screw, Flat Head - Gear Cover Backplate Mounting (1/4-20 x 1/2")
37	800-0026	1	Screw, Hex Cap - Gear Cover Backplate Mounting (5/16-18 x 3/4")
38	850-0045	1	Lockwasher, Gear Cover Backplate Mtg. (5/16")
39	526-0115	5	Washer, Flat (5/16")

* - Included in Gear Cover Assembly.

** - Sets with Heat Exchanger order 130-0627 line.

† - See separate group for Component Parts

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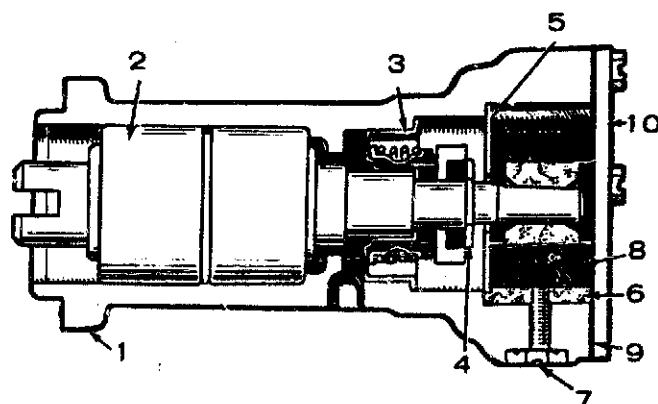
WATER PUMP (132B59) PARTS GROUP

NOTE: This group applies to units Spec A through K.

REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
	132-0059	1	*Pump, Water (For replacement order 130-0182 and 130-0628)
	132-0069	1	Kit, Water Pump Service - Includes Parts Marked **
1	132-0060	1	Shaft, Water Pump
2	132-0061	1	Plate Assembly, Cam and Wear
3	132-0062	1	Screw, Cam and Plate
4	132-0063	2	**Seal, Water Pump
5	132-0064	1	**Impeller, Water Pump - Includes Screw

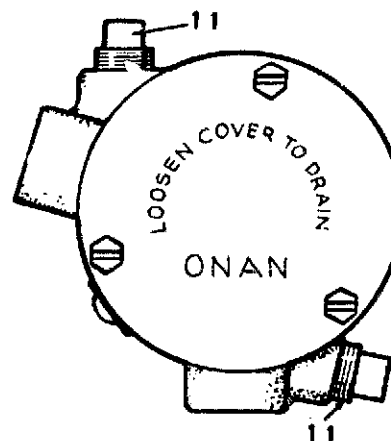
REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
6	132-0065	1	**Screw, Impeller
7	132-0066	1	Cover, Water Pump End
8	132-0062	3	**Screw, End Cover
9	132-0068	1	**Gasket, End Cover
10			Body, Water Pump (Not Sold Separately)

* - Plants with heat exchanger order 130-0627 Line.
 ** - Contained in Repair Service Kit.



WATER PUMP (132B152&131K182) GROUP

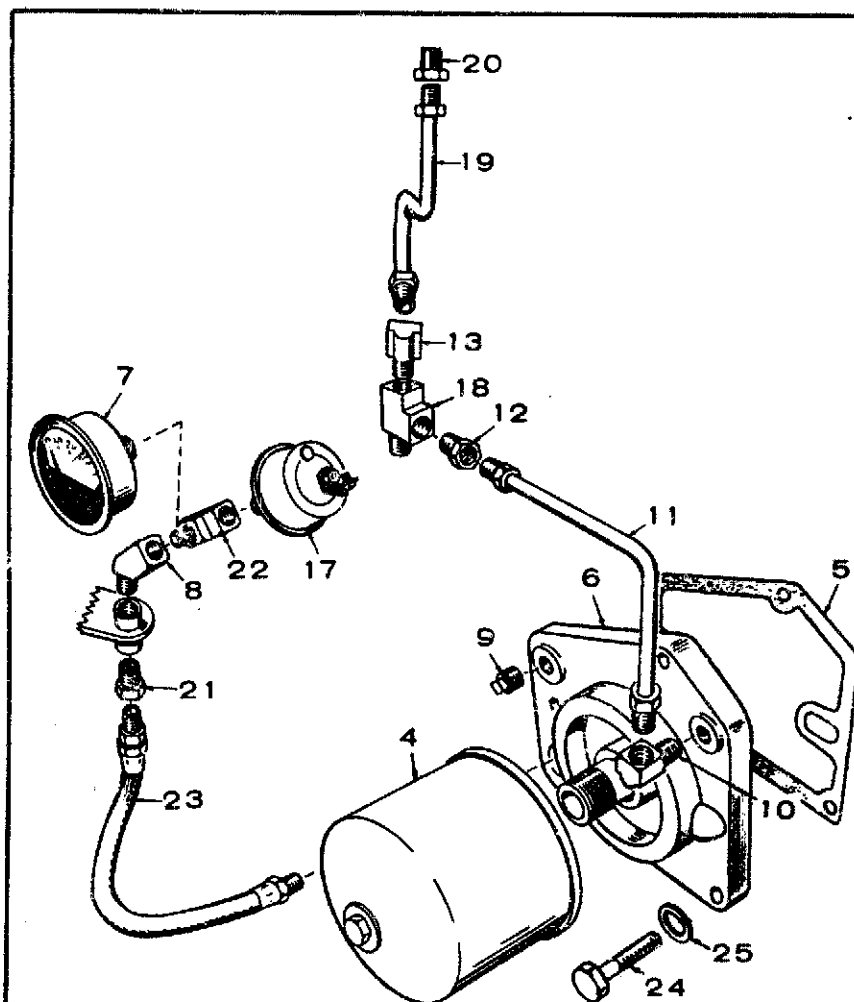
NOTE: This group applies to all units Begin Spec L and replaced pumps Spec A through K units.



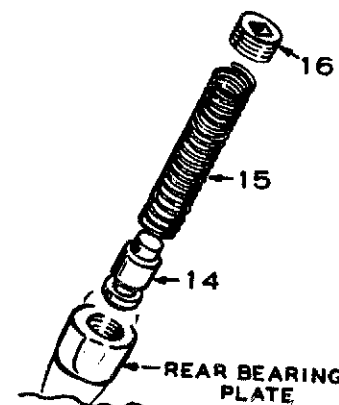
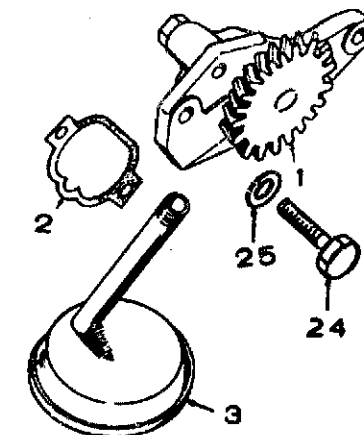
REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
	131-0179	1	Kit, Water Pump Repair (Includes Parts Marked *)
1		1	Body, Water Pump (Not Sold Separately)
2	131-0154	1	Bearing and Shaft Assembly
3	131-0157	1	*Seal Assembly
4	518-0221	1	*Retaining Ring
5	131-0158	1	*Wear Plate, Rear
6	131-0159	1	*Cam

REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
7	815-0283	4	Screw, H.H. Brass - (1) * Cam (3) Cover
8	131-0160	1	*Impeller
9	131-0161	1	*Gasket, Cover
10	131-0162	1	*Cover, Pump
11	502-0080	2	Plug, Square Head (1/8")

* - Contained in Repair Kit.



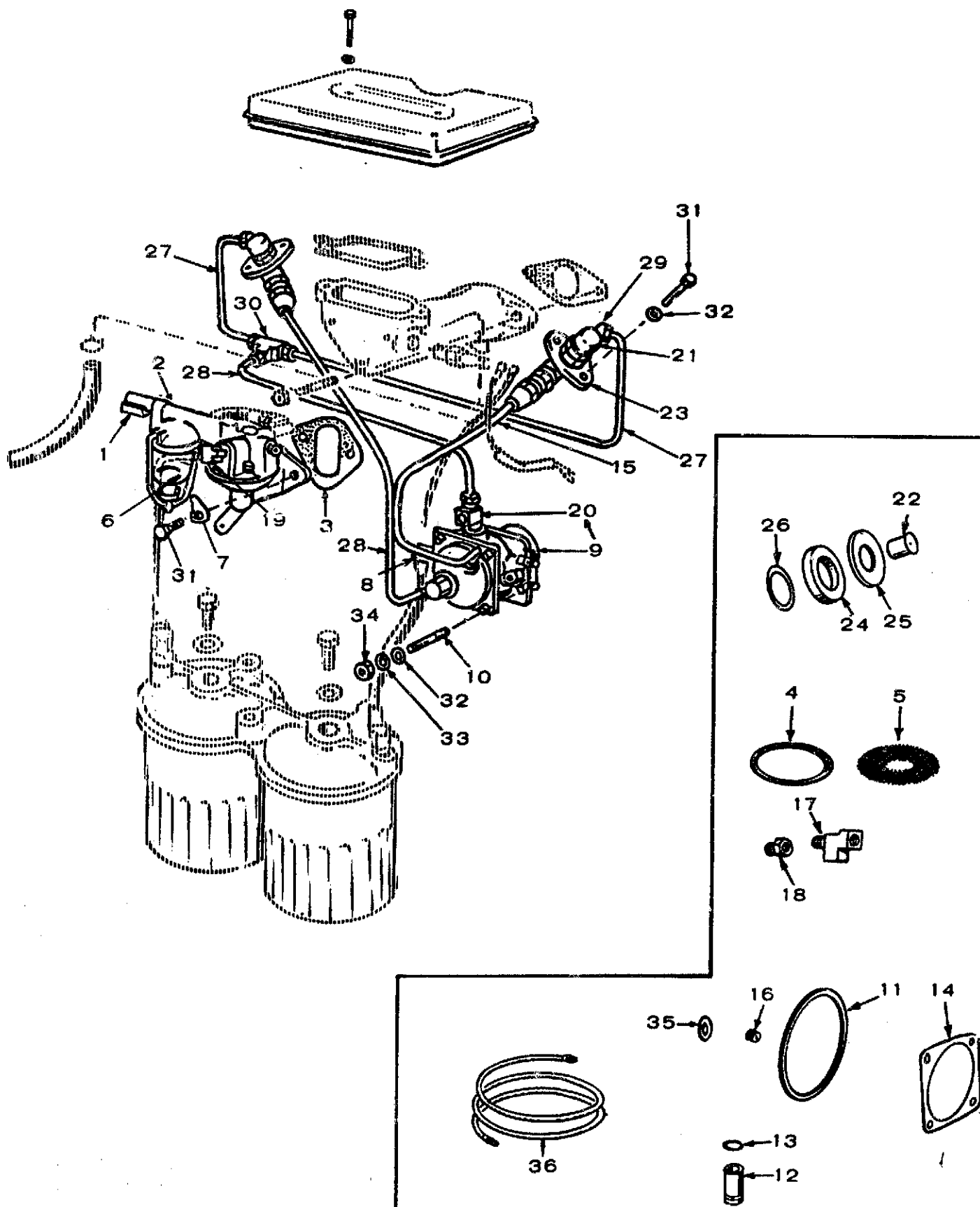
OIL SYSTEM GROUP



REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
1	120-0547	1	Pump Assembly, Oil
2	120-0580	1	Gasket Kit, Pump
3	120-0551	1	Cup Assembly, Oil Pump Intake
4	FILTER, OIL		
	122-0185	1	3-1/2" Long (Standard)
	122-0193	1	5-1/2" Long (Optional)
5	122-0188	1	Gasket, Adapter
6	122-0182	1	Adapter, Oil Filter
7	193-0006	1	Gauge, Oil Pressure
8	502-0020	1	Elbow (Street - 90°) - Oil Gauge
8	502-0053	1	Elbow, 45° (Optional Low Oil Pressure Switch)
9	505-0057	1	Plug (1/8") - Adapter
10	ELBOW, INVERTED MALE - OIL LINE TO FILTER ADAPTER		
	502-0019	1	Spec A through N
	502-0037	1	Begin Spec P
11	LINE, OIL - ADAPTER TO TEE		
	120-0582	1	Spec A through N
	120-0636	1	Begin Spec P
12	CONNECTOR, INVERTED MALE - INJECTION PUMP LUBRICATION TEE		
	502-0030	2	Spec A through N
	502-0274	1	Begin Spec P
13	502-0037	1	Elbow, Injection Pump Lubrication Tee - Begin Spec P
14	120-0539	1	Valve, Oil By-Pass

REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
15	120-0555	1	Spring, By-Pass Valve
16	505-0274	1	Plug (1/8") - Oil By-Pass
17	SWITCH, LOW PRESSURE (OPTIONAL)		
	309-0064	1	Spec A through E
	309-0169	1	Begin Spec F
18	502-0242	1	Tee (Restricted) - Injection Pump Lubrication
19	LINE, OIL - INJECTION PUMP TEE TO CYLINDER HEAD		
	120-0583	1	Spec A through N
	120-0631	1	Begin Spec P
20	502-0281	1	Connector (Restricted) - Oil Line to Cylinder Head
21	502-0003	1	Connector, Oil Fill Bracket to Oil Line - Begin Spec S
22	502-0058	1	Tee, Oil Fill Bracket to Gauge and Switch - Begin Spec S - Optional
23	501-0003	1	Line, Oil - Begin Spec S
24	SCREW, HEX CAP		
	800-0030	2	Oil Pump Mounting (5/16-18 x 1-1/4")
	800-0028	3	Oil Filter Adapter Mounting (5/16-18 x 1")
25	WASHER, LOCK		
	850-0045	2	Oil Pump Mounting (5/16")
	850-0045	3	Oil Filter Adapter Mounting (5/16")

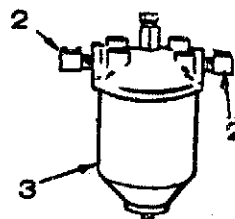
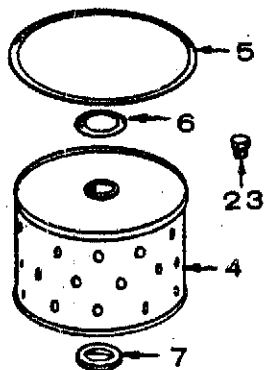
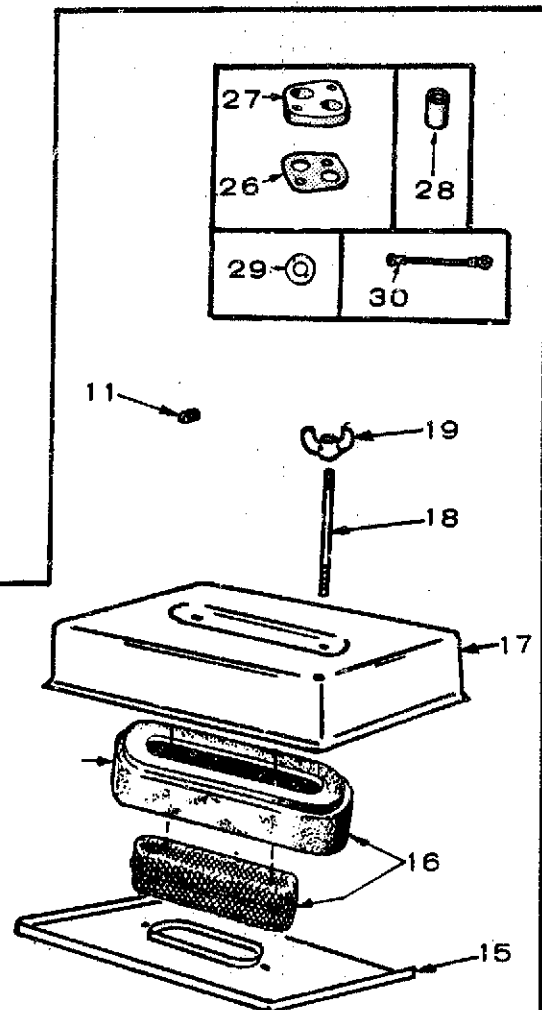
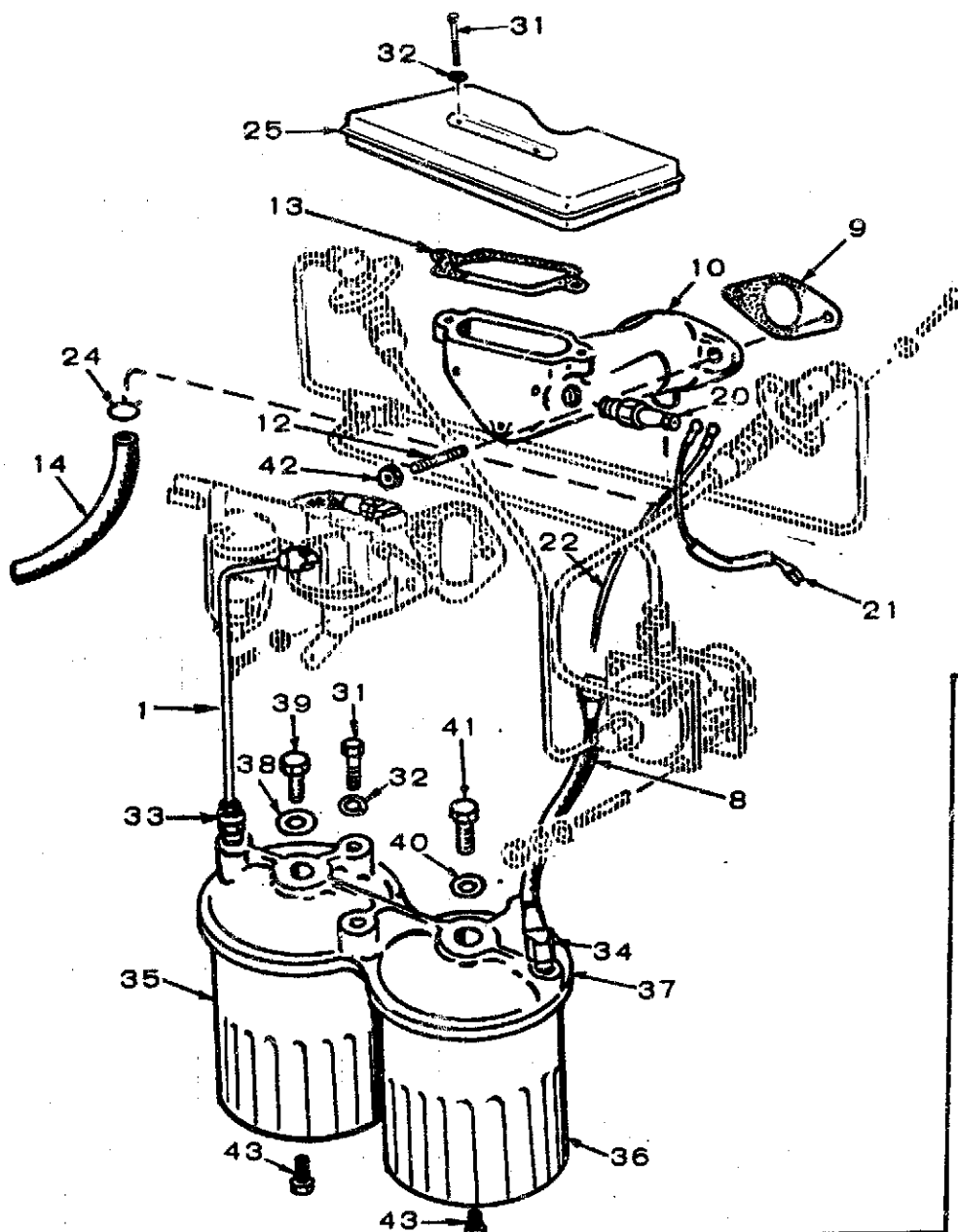
FUEL TRANSFER PUMP AND INJECTION SYSTEM GROUP



REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
	149-1046	1	Repair Kit, Fuel Pump (Includes Diaphragm and Gaskets)
1	ELBOW, INVERTED MALE, FUEL PUMP INLET		
	502-0065	1	45° - Spec A through R
	502-0002	1	90° - Begin Spec S
2	149-1038	1	Pump, Fuel Transfer
3	149-0792	1	Gasket, Fuel Transfer Pump Mounting
4	149-0517	1	Gasket, Fuel Pump Bowl
5	149-0463	1	Screen, Fuel Pump Filter
6	149-0662	1	Bowl, Fuel Pump (Metal)
7	149-1307	2	Washer, Flange - Fuel Pump Mounting
8	ELBOW, INJECTION PUMP INLET		
	502-0054	1	Spec A through Q
	502-0039	1	Begin Spec R
9	PUMP, FUEL INJECTION		
	147-0218	1	Spec A through Q (Includes Buttons 2, 4, 11, 12)
	147-0219	1	Begin Spec R (Includes Buttons 2, 4, 11, 12)
10	520-0129	4	Stud, Injection Pump Mounting
11	509-0094	1	Seal, O-Ring - Injection Pump to Crankcase
12	147-0182	1	Tappet, Injection Pump
13	147-0196	1	Gasket, O-Ring - Injection Pump Tappet
14	147-0145	1	Shim Kit, Injection Pump Mounting
15	LINE, INJECTION PUMP TO NOZZLE		
	149-0961	1	#1 Cylinder - Spec A through Q
	149-0962	1	#2 Cylinder - Spec A through Q
	149-1101	1	#1 Cylinder - Begin Spec R
	149-1102	1	#2 Cylinder - Begin Spec R
16	BUTTON, INJECTION PUMP PLUNGER		
	147-0147	1	.119 - Marked 1 or A
	147-0148	1	.116 - Marked 2 or B
	147-0149	1	.113 - Marked 3 or C
	147-0150	1	.110 - Marked 4 or D
	147-0151	1	.107 - Marked 5 or E
	147-0161	1	.104 - Standard, 11 or No Mark
	147-0152	1	.101 - Marked 6 or F
	147-0153	1	.098 - Marked 7 or H
	147-0154	1	.095 - Marked 8 or J
	147-0155	1	.092 - Marked 9 or K
	147-0156	1	.089 - Marked 10 or L
	147-0190	1	.122 - Marked 12 or M
	147-0189	1	.125 - Marked 13 or N
	147-0188	1	.128 - Marked 14 or P
	147-0187	1	.131 - Marked 15 or R
	147-0186	1	.134 - Marked 16 or S

REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
17	502-0048	1	Tee, Return Line (With provision for return line to tank) - Early Models Only
18	502-0029	1	Bushing, Pipe - Return Line Tee to Pump Bleeder Valve - Early Models Only
19	ELBOW, INVERTED MALE - FUEL PUMP OUTLET		
	502-0002	1	90° - Spec A through R
	502-0065	1	45° - Begin Spec S
20	147-0183	1	Valve, Bleeder - Injection Pump
21	147-0136	2	Nozzle and Holder Assembly
22	147-0134	2	Nozzle Only, Component of Nozzle & Holder Assembly
23	147-0141	2	Flange, Injection Nozzle Hold-down
24	147-0044	4	Shield, Nozzle Heat (Steel)
25	147-0043	2	Gasket, Nozzle Heat Shield (Asbestos)
26	110-0419	2	Gasket, Shield to Head (Copper)
27	LINE, NOZZLE FUEL RETURN		
	149-0863	1	Spec A through N - #1 Cylinder
	149-1056	1	Begin Spec P - #1 Cylinder
	149-0864	1	Spec A through N - #2 Cylinder
	149-1057	1	Begin Spec P - #2 Cylinder
28	LINE, INJECTION PUMP TO FUEL RETURN LINES TEE		
	149-0873	1	Spec A through F
	149-0950	1	Spec G through N
	149-1058	1	Begin Spec P
29	502-0065	2	Elbow, Inverted (45°) - Nozzle (Fuel Return Line)
30	502-0102	1	Tee, Return Lines
31	SCREW, HEX CAP		
	114-0171	4	Nozzle & Holder Mounting (5/16-18 x 2")
	800-0027	2	Transfer Pump Mounting (5/16-18 x 7/8")
32	WASHER, FLAT		
	526-0122	4	Nozzle & Holder Mounting
	526-0022	4	Injection Pump Mounting
33	850-0045	4	Washer, Lock - Injection Pump Mounting (5/16")
34	862-0015	4	Nut, Injection Pump Mounting (5/16-18)
35	147-0259	1	Ring, Retaining - Timing Button
36	501-0007	2	Line, Fuel (24")

AIR CLEANER AND FUEL FILTERS GROUP



REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
1	LINE, FUEL PUMP TO FILTER		
	149-1132	1	Spec A through R
	149-1190	1	Begin Spec S
2	502-0041	2	Elbow, Inverted Male - Secondary Filter Inlet and Outlet - Spec A through R
3	149-0408	1	Filter, Secondary Fuel - Includes Cartridge (Bleed Plug 149-0769 is available separately) - Spec A thru R
4	149-0428	1	Cartridge, Secondary Fuel Filter - Spec A through R
5	149-0456	1	Gasket, Secondary Filter, Bowl to Cover - Spec A through R
6	149-0455	1	Gasket, Secondary Filter Cartridge to Head - Spec A through R
7	149-0493	1	Gasket, Secondary Filter Cartridge to Retainer - Spec A through R
8	LINE, SECONDARY FILTER TO INJECTION PUMP		
	501-0091	1	Spec A through R
	501-0129	1	Begin Spec S
9	141-0281	1	Gasket, Air Cleaner Adapter to Cylinder Head
10	ADAPTER, RESONATOR OR AIR CLEANER		
	140-0804	1	Key 1
	140-0816	1	Key 2, 32 Volt
	140-0817	1	Key 2, 24 Volt
11	505-0180	1	Plug, Pipe (1/4") - Air Cleaner Adapter - Used on some early models.
12	520-0011	2	Stud, Air Cleaner Adapter Mounting
13	140-0584	1	Gasket, Air Cleaner or Resonator Mounting
14	HOSE, BREATHER		
	503-0384	1	Spec A through F
	503-0462	1	Spec G through R
	503-0557	1	Begin Spec S
15	140-0607	1	Pan, Air Cleaner - Spec A through H
16	140-0606	1	Element and Retainer, Air Cleaner - Spec A through H
17	140-0594	1	Cover, Air Cleaner - Spec A through H
18	520-0621	2	Stud, Air Cleaner - Spec A through H
19	865-0020	2	Nut, Wing - Air Cleaner - Spec A through H
20	HEATER, MANIFOLD INCLUDES GASKET (12 Volt)		
	154-0712	1	Key 1
	154-0712	3	Key 2, 32 Volt
	154-0712	2	Key 2, 24 Volt

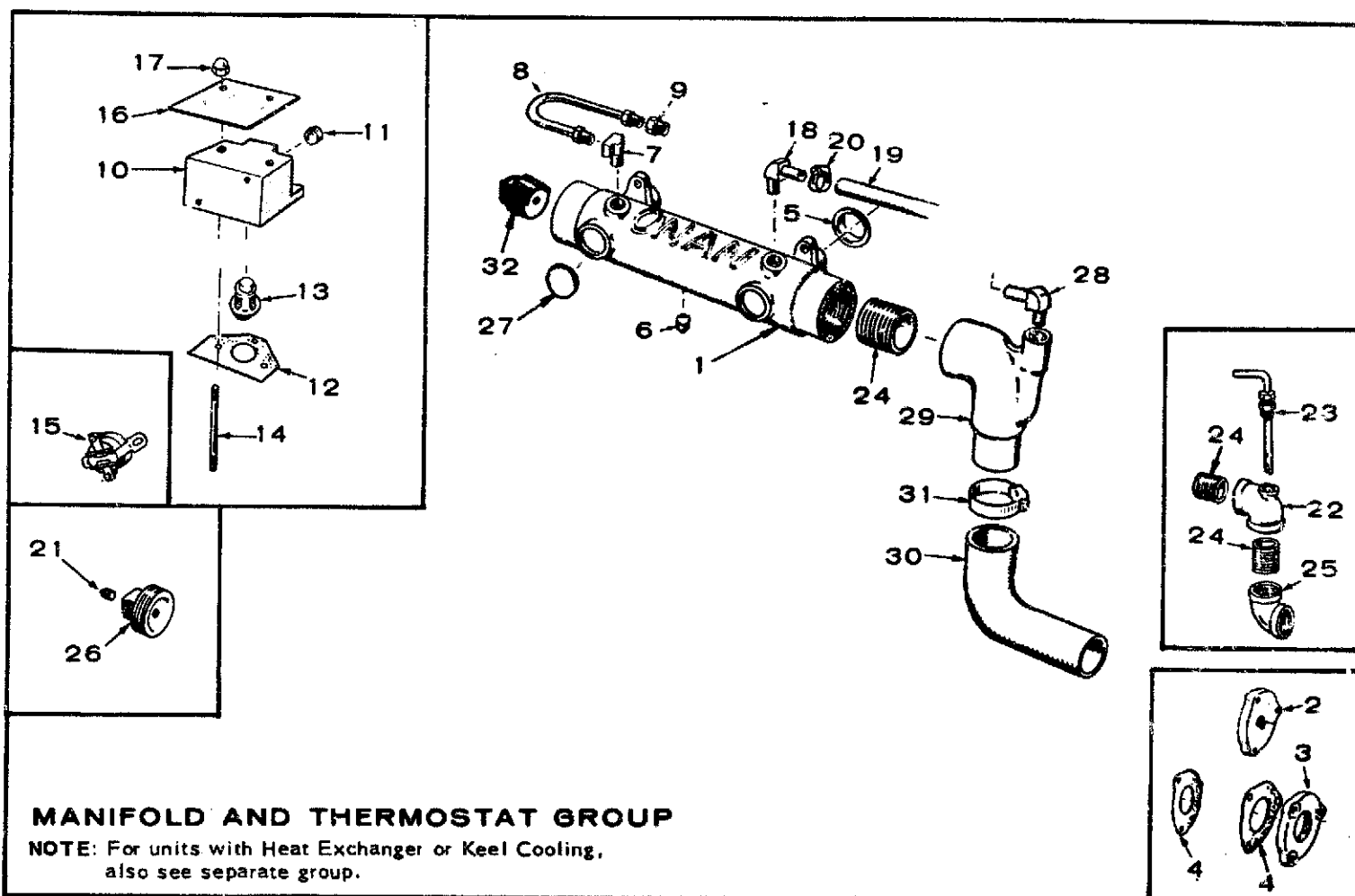
REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
21	LEAD, GLOW PLUG TO AIR HEATER		
	336-1314	1	#1 Cylinder (10-1/4") - Round Type Terminal
	336-1504	1	#1 Cylinder (12-1/4") - Blade Type Terminal
	336-1313	1	#2 Cylinder (5-1/4") - Round Type Terminal
	336-1505	1	#2 Cylinder (5-1/4") - Blade Type Terminal
22	336-1418	1	Lead, Air Heater to Solenoid in Control
23	149-0769	1	Plug, Air Bleed, Secondary Filter
24	CLAMP, BREATHER HOSE		
	503-0171	2	Spec A through R
	503-0170	2	Begin Spec S
25	140-0803	1	Resonator - Begin Spec J
26	140-0706	1	Gasket, Heater Adapter - Key 2
27	140-0705	1	Plate, Heater Adapter - Key 2
28	508-0103	2	Sleeve, Mica - Heater Adapter Mounting - Key 2
29	508-0102	2	Washer, Mica - Heater Adapter - Key 2
30	336-1051	1	Lead, Jumper - Air Heater - Key 2
31	SCREW, HEX CAP		
	800-0011	2	Resonator Mounting
	800-0026	3	Fuel Filter Adapter Mounting
32	WASHER, LOCK		
	850-0040	2	Resonator Mounting
	850-0045	3	Fuel Filter Adapter Mounting
33	502-0003	1	Connector, Primary Fuel Filter Inlet - Begin Spec S
34	502-0099	1	Elbow, Reducer - Secondary Fuel Filter Outlet - Begin Spec S
35	122-0325	1	Filter, Fuel - Primary - Begin Spec S
36	122-0326	1	Filter, Fuel - Secondary - Begin Spec S
37	149-1185	1	Adapter, Fuel Filters - Begin Spec S
38	526-0068	1	Washer, Primary Fuel Filter Mounting - Begin Spec S
39	801-0074	1	Screw, Hex Cap - Primary Fuel Filter Mounting - Begin Spec S
40	526-0066	1	Washer, Secondary Fuel Filter Mounting - Begin Spec S
41	801-0053	1	Screw, Hex Cap - Secondary Fuel Filter Mounting - Begin Spec S
42	870-0137	2	Nut, Air Cleaner Adapter Mounting (5/16-24)
43	502-0080	2	Plug, Drain - Fuel Filter - Begin Spec S

This diagram shows an exploded view of a mechanical assembly. The components are numbered as follows:

- 1**: A coiled spring with a hook end.
- 2**: A rectangular frame or housing.
- 3**: A threaded rod or bolt.
- 4**: A long, thin rectangular plate or strip.
- 5**: A hex nut.
- 6**: A rectangular base or support.
- 7**: A long, thin rectangular plate or strip, similar to part 4.
- 8**: A long, thin rectangular plate or strip, similar to parts 4 and 7.
- 9**: A small cylindrical component.
- 10**: A small gear or pinion.
- 11**: A hex nut.
- 12**: A hex nut.

The diagram illustrates the assembly sequence, with dashed lines indicating the alignment and fit of the parts. A separate inset shows the detailed view of the spring (1) and the threaded rod (3).

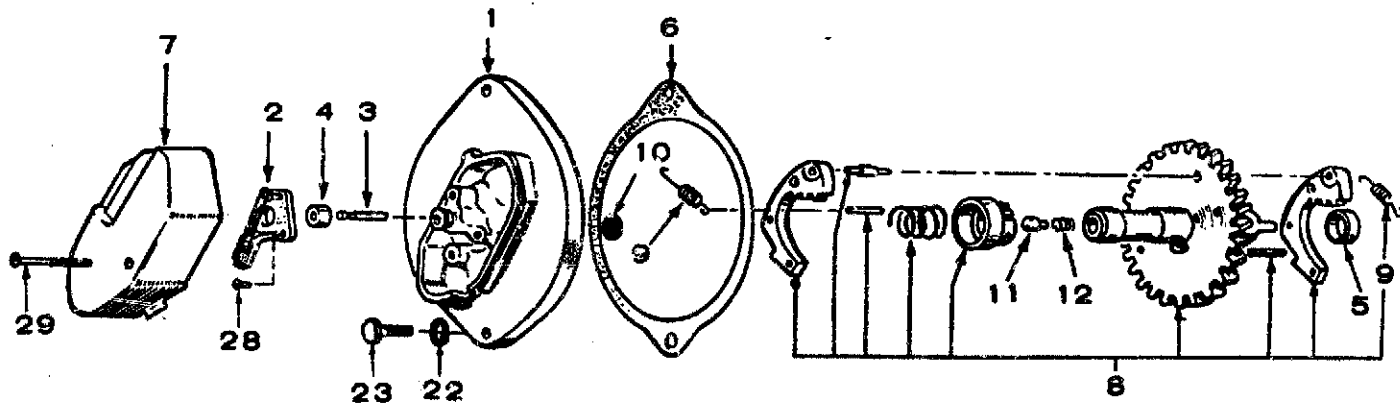
Diagram showing two types of springs: a helical spring (1) and a coil spring (3).



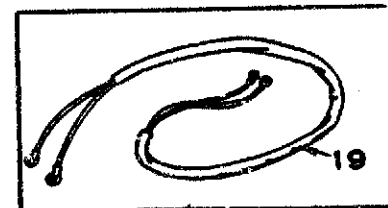
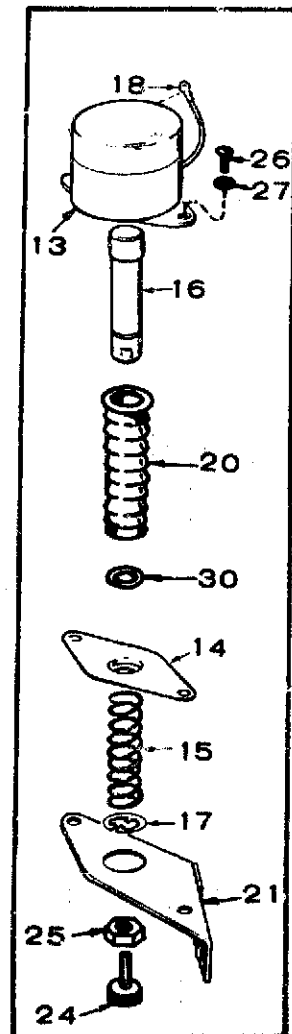
REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
1	154-0708	1	Manifold, Exhaust - Water Cooled (Also order Plug Spec A through G Units)
2	154-0709	1	Cap, End - Exhaust Manifold - Plain - Spec A through G
3	154-0710	1	Cap, End - Exhaust Manifold Threaded Outlet - Spec A through G
4	154-0711	2	Gasket, Exhaust Manifold Cap - Spec A through G
5	154-1057	2	Gasket, Exhaust Manifold to Head
6	505-0110	1	Plug, 3/8"
7	502-0074	1	Elbow, Inverted Male
8	130-0510	1	Line, Water
9	502-0103	1	Connector, Inverted Male - Thermostat Cover Outlet
10	COVER, THERMOSTAT		
	309-0144	1	Units WITHOUT Keel Cooling
	309-0161	1	Units WITH Keel Cooling
11	505-0274	1	Plug (1/8") - Thermostat Cover
12	309-0145	1	Gasket, Thermostat Cover
13	309-0130	1	Thermostat
14	520-0143	2	Stud, Thermostat Cover
15	309-0156	1	Switch, Hi-Temp. Cut-Off
16	309-0154	1	Cover, Thermostat Switch - Units with Switch Mounted on Cover
17	869-0002	2	Nut, Acorn (5/16-24) - Thermostat Cover Stud
18	502-0237	1	Elbow, Brass - Exhaust Manifold Water Outlet

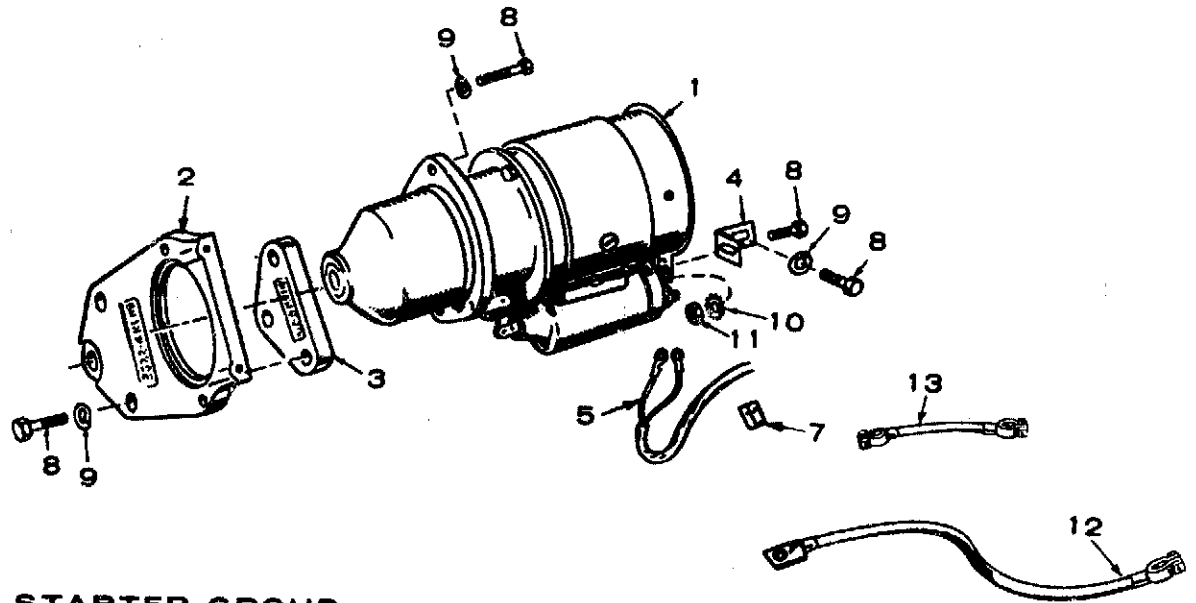
REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
19	503-0159	1	Hose, Rubber (1/2 x 34") - Water Outlet and Inlet
20	503-0446	2	Clamp, Water Hose
21	502-0080	1	Plug (1/8" - Square Head Brass) - Manifold End Cap - (Used on some early models)
22	505-0485	1	Tee, Reducing - Exhaust (With Provision for Water Line) - Early Models
23	154-0894	1	Tube Assembly, Hose Adapter - (Includes Fitting) - Early Models
24	505-0625	1	Nipple, Close (1-1/4") - Two used on early models.
25	505-0493	1	Elbow (1-1/4" x 90°) - Early Models
26	505-0490	1	Plug, Exhaust Manifold End (1-1/4 x 1/8") - (Used on some early models)
27	517-0041	3	Plug, Expansion (1-1/8" - Brass)
28	502-0237	1	Elbow, Brass - Water Hose Adapter - Late Models
29	155-1058	1	Tee, Reducing - Exhaust (With Provision for Water Line) - Later Models
30	503-0575	1	Elbow, Exhaust Hose - Later Models
31	503-0465	2	Clamp, Exhaust Hose - Later Models
32	505-0359	1	Plug (1-1/4") - Exhaust Manifold End - Begin Spec H

START-DISCONNECT PLATE AND STOP SOLENOID GROUP



REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
1	191-0496	1	Plate
2	309-0134	1	Switch Assembly
3	309-0152	1	Plunger, Switch
4	160-1143	1	Diaphragm, Switch Plunger
5	160-0720	1	Spacer, Switch Plate
6	160-0721	1	Gasket, Plate
7	191-0392	1	Cover, Switch Plate
8	CONTROL ASSEMBLY, START-DIS. SWITCH (ALSO DRIVE WATER PUMP) - Includes Weight Springs		
	191-0390	1	Spec A through K
	191-0554	1	Begin Spec L
9	160-0711	2	Spring, Weight (Included in Switch Control Assembly)
10	160-0806	1	Disc, Thrust Plunger
11	160-0774	1	Plunger, Thrust
12	160-0773	1	Spring, Thrust Plunger
13	SOLENOID, STOPPING		
	307-0628	1	Key 1
	307-0680	1	Key 2, 32 Volt
	307-0668	1	Key 2, 24 Volt
14	306-0162	1	Retainer, Solenoid Plunger
15	306-0161	1	Spring, Solenoid Plunger
16	306-0159	1	Plunger, Solenoid
17	518-0203	1	Ring, Snap - Spring Retaining
18	336-0706	1	Lead, Ground - Solenoid
19	338-0258	1	Harness, Wiring - Switch Plate to Control
20	306-0193	1	Cover, Solenoid Plunger
21	306-0158	1	Bracket, Solenoid Mounting
22	850-0050	2	Washer, Lock (3/8") - Plate Mounting
23	800-0052	2	Screw, Hex Cap - Plate Mounting (3/8-16 x 1-1/2")
24	306-0242	1	Screw (1/4-20 x 1") - Plunger Adjustment
25	862-0001	1	Nut, Hex (1/4-20)
26	812-0150	2	Screw (1/4-20 x 5/8") - Solenoid Mounting
27	850-0040	2	Washer, Lock (1/4)
28	815-0201	2	Screw (8-32 x 3/8") - Switch Assembly to Plate
29	813-107	1	Screw (10-32 x 1-1/4") - Cover Mounting
30	518-0218	2	Ring, Retainer - Solenoid Cover

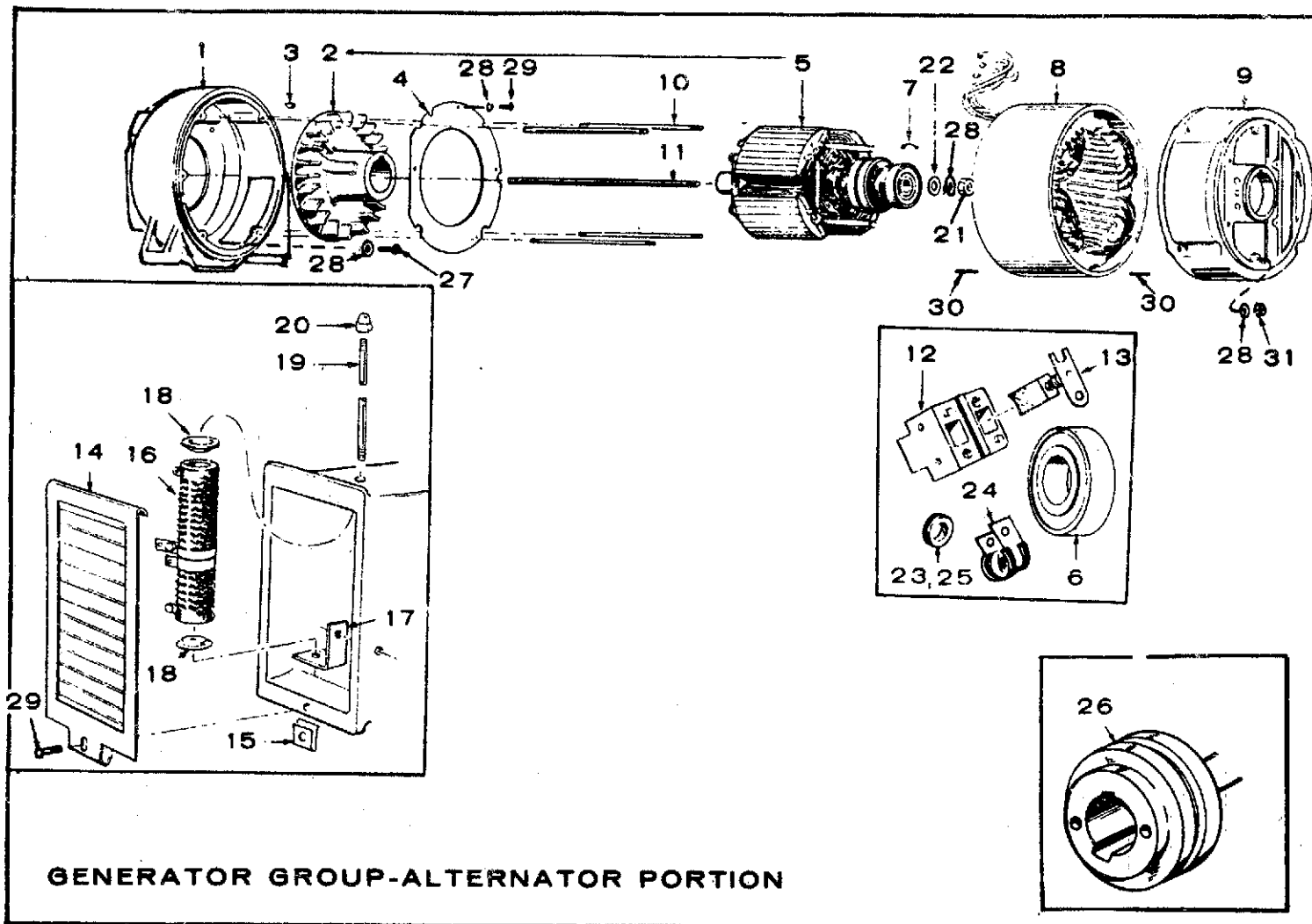




AUTOMOTIVE STARTER GROUP

REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
1	*MOTOR STARTER		
	191-0324	1	Key 1, (12 Volt)
	191-0443	1	Key 2 (24-32 Volt)
2	191-0512	1	Flange, Starter Mounting
3	191-0311	1	Spacer, Starter Flange
4	191-0365	1	Bracket, Starter
5	338-0279	1	Harness, Starter to Control
7	416-0096	2	Clamp, Harness
8	SCREW, HEX CAP		
	800-0051	2	Starter Motor to Flange
	800-0054	3	Starter Motor Flange Mounting
	800-0046	1	Support Bracket to Starter Motor
	800-0052	2	Support Mounting
9	WASHER, LOCK		
	850-0050	2	Starter Motor to Flange
	850-0050	3	Starter Motor Flange Mounting
	850-0050	2	Support Mounting
10	856-0010	1	Washer, Shakeproof - Bracket to Starter Motor
11	864-0003	1	Nut, Hex - Support Bracket to Starter Motor
12	CABLE, BATTERY (SELECT BY LENGTH)		
	416-0021	2	20-1/2" Long
	416-0077	2	28-1/4" Long
13	416-0004	1	Cable, Jumper

* - See separate group for components.

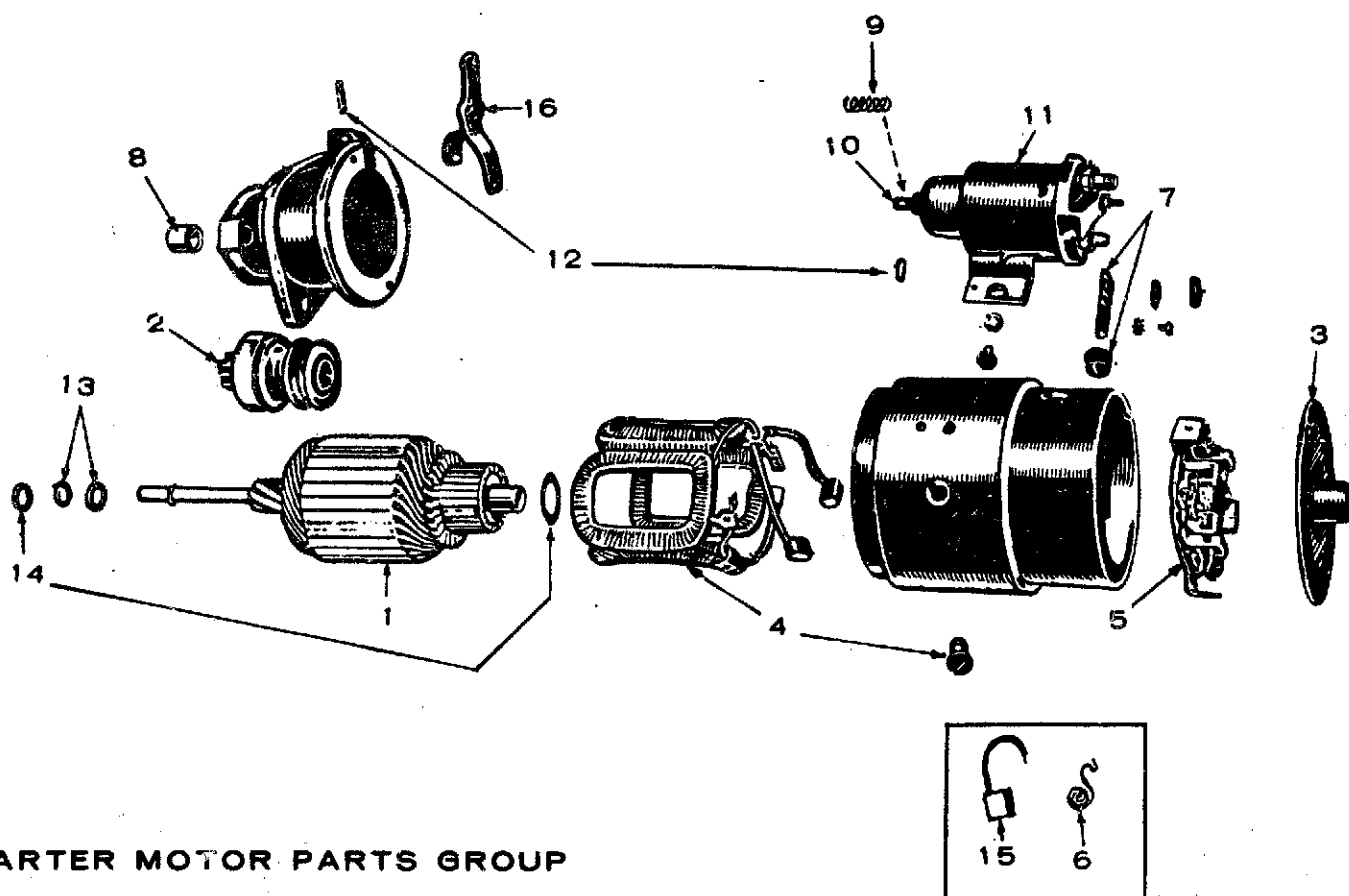


GENERATOR GROUP-ALTERNATOR PORTION

REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
1	ADAPTER, GENERATOR TO ENGINE		
	231-0099	1	Spec A through G
	231-0112	1	Begin Spec H
2	205-0064	1	Blower, Generator
3	515-0006	1	Key, Blower to Crankshaft
4	234-0162	1	Baffle, Generator Air
5	ROTOR, WOUND (Includes Bearing & Blower)		
	201-1086	1	Spec A and B
	201-1123	1	Begin Spec C
6	510-0047	1	Bearing, Ball - Rotor
7	232-0596	1	Clip, Bearing Stop
8	*	1	Stator Assembly, Wound
9	BELL, END - ALTERNATOR TO EXCITER		
			Key 1
	211-0146	1	50 Hertz
			60 Hertz
	211-0138	1	Spec A through F
	211-0146	1	Begin Spec G
	211-0146	1	Key 2
10	STUD, GENERATOR THROUGH		
			Key 1
	520-0637	4	50 Hertz
			60 Hertz
	520-0605	4	Spec A through F
	520-0637	4	Begin Spec F
	520-0637	4	Key 2
11	520-0611	1	Stud, Rotor Through
12	212-1064	2	Block, Guide - Collector Ring
13	214-0059	4	Brush, Collector Ring
14	234-0199	1	Cover, Air Outlet
15	870-0177	1	Clip, Fastening

REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
16	RESISTOR, TAPPED ADJ. (Also Listed in Control Group)		
	304-0500	1	Key 1
	304-0534	1	Key 2
17	232-1565	1	Bracket, Resistor Mounting
18	304-0006	2	Washer, Resistor Centering
19	520-0620	1	Stud, Resistor Mounting
20	866-0001	1	Nut, Acorn - Resistor Mounting
21	NUT, ROTOR THROUGH STUD		
	870-0203	1	50 Hertz
			60 Hertz
	232-1567	1	Spec A and B (7/16-14)
	870-0203	1	Begin Spec C (7/16-20)
22	232-0200	1	Washer, Rotor Through Stud
23	508-0095	1	Grommet, Rubber - Air Baffle
24	332-0050	1	Clip, Tinnerman
25	508-0112	1	Grommet, Rubber - Lead Out
26	204-0061	1	Collector Ring
27	SCREW, HEX CAP - ADAPTER MOUNTING		
	800-0050	2	3/8-16 x 1"
	800-0051	2	3/8-16 x 1-1/4"
28	WASHER, LOCK		
	850-0050	4	Adapter Mounting
	850-0055	1	Rotor Through Stud
	850-0045	4	Generator Through Stud
	850-0030	5	Baffle Mounting
29	SCREW, ROUND HEAD		
	809-0046	1	Air Outlet Cover Mounting
	813-0098	5	Baffle Mounting
30	516-0083	2	Pin, Roll (3/16" x 5/8") - Alignment
31	862-0015	4	Nut, Hex (5/16-18) - Generator Through Stud

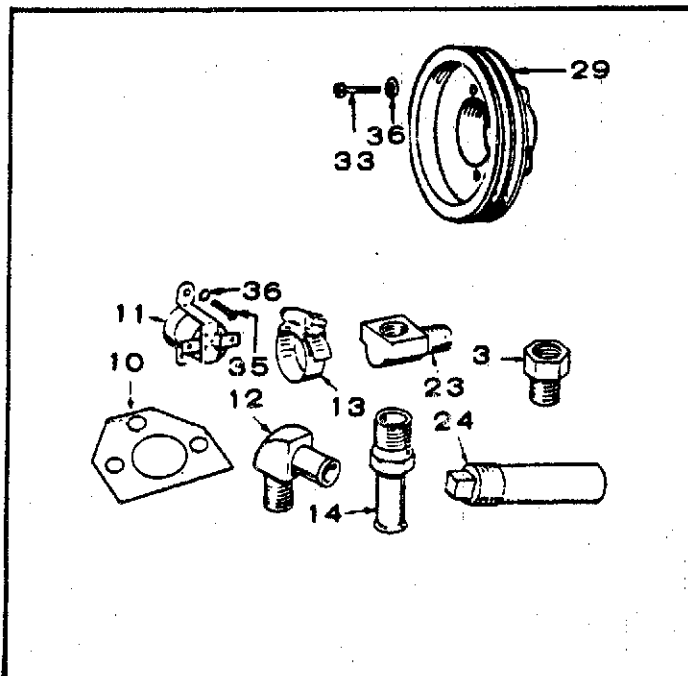
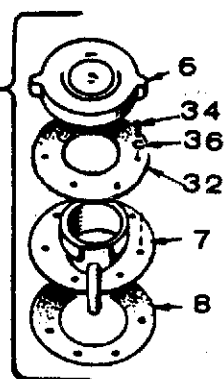
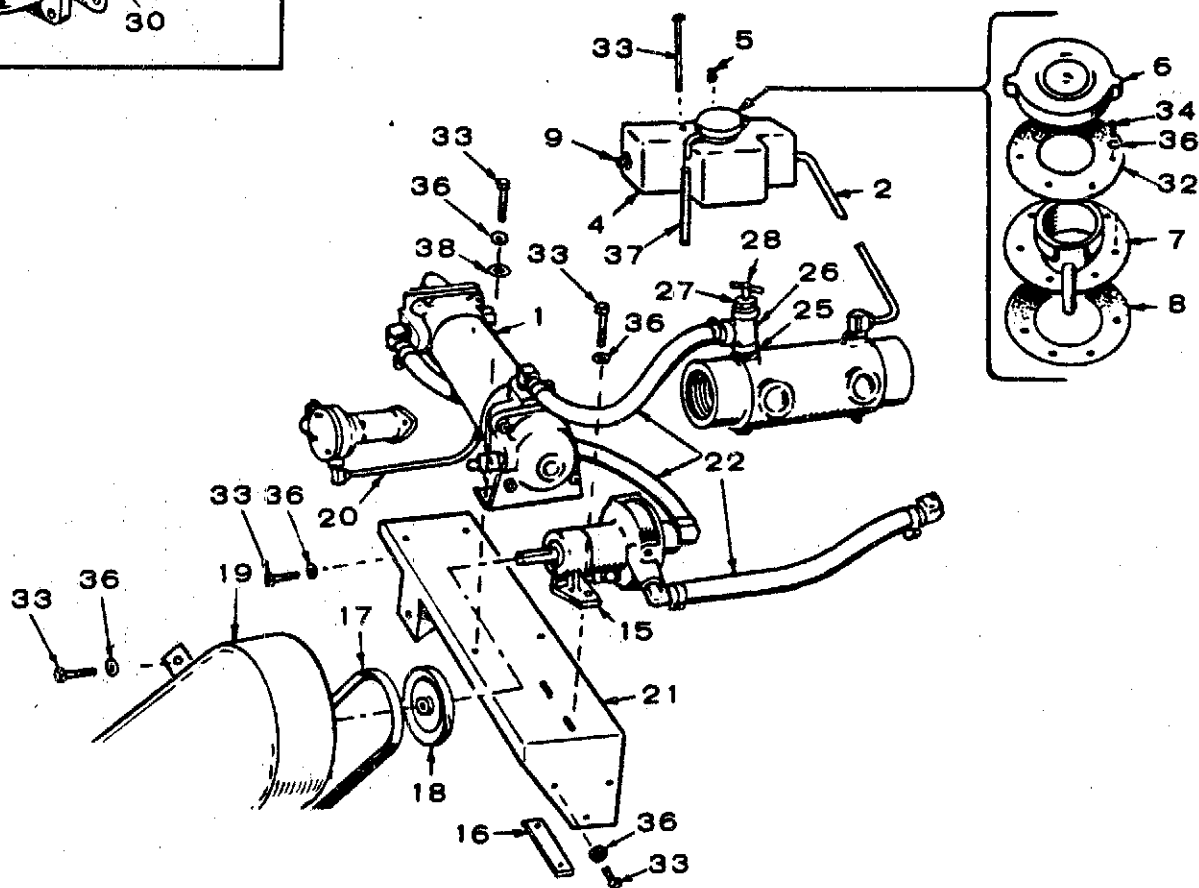
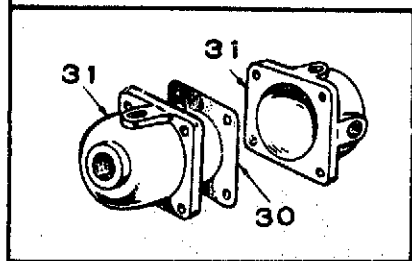
* - Order by description giving Model, Spec and Serial Number.



STARTER MOTOR PARTS GROUP

<u>REF. NO.</u>	<u>PART NO.</u>	<u>QTY. USED</u>	<u>PART DESCRIPTION</u>
	MOTOR ASSEMBLY, STARTING		
	191-0324	1	12 Volt
	191-0443	1	24-32 Volt
1	ARMATURE		
	191-0712	1	12 Volt
	191-0713	1	24-32 Volt
2	191-0432	1	Clutch
3	191-1023	1	Head Assembly, Commutator End
4	COIL PACKAGE, FIELD		
	191-1024	1	12 Volt
	191-1043	1	24-32 Volt
5	PLATE ASSEMBLY, BRUSH		
	191-1025	1	12 Volt
	191-1042	1	24-32 Volt
6	191-1020	1	Spring Set, Brush (Set of 4)
7	191-1026	1	Connector Package
8	191-0497	1	Bearing (Bronze), Drive End
9	191-1027	1	Spring, Plunger
10	191-1028	1	Core Assembly, Moving
11	SWITCH, SOLENOID		
	191-0433	1	12 Volt
	191-0715	1	24-32 Volt
12	191-1029	1	Yoke Parts Package
13	191-1030	1	Stop and Lock Ring Package, Pinion
14	191-1031	1	Thrust Washer Package, Armature (Use as Required)
15	BRUSH SET, SERVICE		
	191-0434	1	12 Volt
	191-0714	1	24-32 Volt
16	191-1032	1	Yoke

HEAT EXCHANGER GROUP-OPTIONAL EQUIPMENT



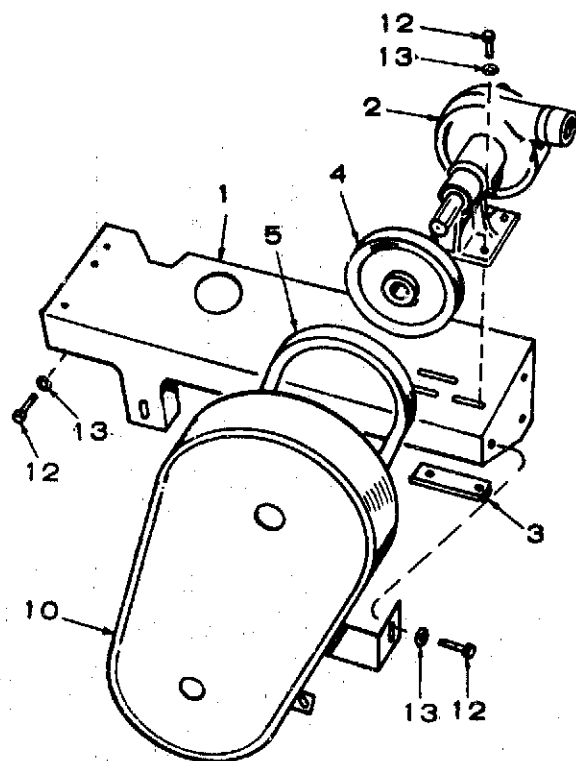
REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
1	130-0514	1	Exchanger, Heat (Includes Zinc Pencil Assembly)
2	130-0568	1	Line, Water - Expansion Tank to Exhaust Manifold
3	502-0103	1	Connector, Inverted Male - Expansion Tank Outlet
4	130-0524	1	Tank, Expansion
5	502-0080	1	Plug (1/8") - Expansion Tank Fill Vent
6	130-0589	1	Cap, Pressure - NOTE: Prior to Serial #704528, also order #130-0590 Neck & Adapter.
7	130-0590	1	Neck and Adapter, Expansion Tank - NOTE: Prior to Serial #704528, also order #130-0589 Cap.
8	130-0519	1	Gasket, Neck and Adapter
9	502-0155	1	Plug (3/8") - Expansion Tank
10	309-0145	1	Gasket, Thermostat Chamber (Also listed in Manifold and Thermostat Group)
11	309-0156	1	Switch, Hi-Temp. Cut-Off
12	502-0237	5	Elbow, Brass - Rubber Hose Connections
13	503-0171	6	Clamp, Hose
14	502-0238	1	Nipple, Brass - Manifold Outlet Hose Connection (Some Early Models used on Centrifugal Pump)
15	132-0110	1	+ Pump, Less Pulley
16	131-0130	1	Bar, Pump Hold-down
17	BELT, CENTRIFUGAL WATER PUMP		
	511-0062	1	Spec A through F
	511-0067	1	Begin Spec G
18	PULLEY, CENTRIFUGAL WATER PUMP		
	512-0036	1	Spec A through F
	512-0042	1	Begin Spec G
19	GUARD, BELT		
	130-0518	1	Spec A through F
	130-0591	1	Begin Spec G
20	LINE, WATER - RAW WATER PUMP TO HEAT EXCHANGER		
	130-0527	1	Spec A through K
	130-0627	1	Begin Spec L
21	BRACKET, HEAT EXCHANGER AND GOVERNOR SPRING BRACKET		
	130-0515	1	Spec A through F
	130-0587	1	Spec G through P
	130-0692	1	Begin Spec R
22	503-0159	1	Hose, Rubber (1/2" I.D. x 3/4" - Total Length Required for all Hoses)

REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
23	502-0074	1	Elbow, Inverted Male - Manifold Line Inlet (Also listed in Manifold & Thermostat Group)
24	130-0626	1	Pencil Assembly, Zinc
25	502-0085	1	*Nipple, Close (3/8") - Manifold Outlet
26	502-0257	1	*Tee, Pipe (3/8") Manifold Outlet
27	502-0049	1	*Bushing, Pipe (3/8 x 1/8) - Manifold Outlet
28	504-006	1	*Valve, Air Bleed - Manifold Outlet
29	PULLEY, FLYWHEEL		
	104-0449	1	Spec A through F
	104-0550	1	Begin Spec G
30	130-0726	2	Gasket, End Bonnet - Heat Exchanger
31	130-0727	2	Bonnet, Heat Exchanger
32	130-0892	1	Stiffener, Filler Neck
33	SCREW, HEX CAP		
	800-0041	2	Expansion Tank Mounting
	800-0054	2	Pulley Mounting
	800-0026	2	Bracket Mounting to Starter Flange
	800-0004	2	Bracket Mounting to Backplate
	800-0005	2	Pump Mounting
	800-0003	4	Belt Guard Mounting
	800-0004	4	Heat Exchanger Mounting
34	821-0005	6	Screw, Filter Neck Mounting
35	813-0096	2	Screw, High Temperature Switch Mounting
36	WASHER, LOCK		
	850-0050	2	Pulley Mounting
	850-0045	2	Bracket Mounting to Starter Flange
	850-0040	2	Bracket Mounting to Backplate
	850-0040	2	Pump Mounting
	850-0040	4	Belt Guard Mounting
	850-0040	4	Heat Exchanger Mounting
	850-0030	6	Filler Neck Mounting
	850-0030	2	High Temp. Switch Mounting
37	503-0347	1	Hose, Overflow
38	526-1015	4	Washer, Flat (1/4")
	REPAIR KIT, WATER PUMP - (INCLUDES SHAFT & BEARINGS, IMPELLER, SEAL, GASKET & SCREWS		
	132-0080	1	For Oberdorfer Model
			IGP #50-P9 and IGP #10-P11 (Onan #132-0070 and 132-0095)
	132-0111	1	For Oberdorfer Model
			IGP #50-P15 (Onan #132-0110)

* - Not used on some early models.

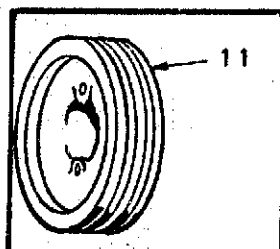
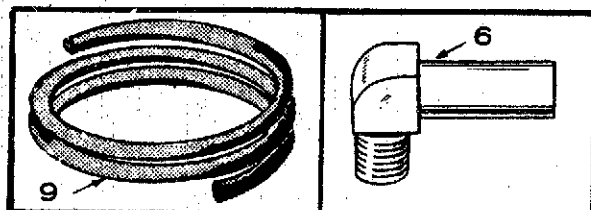
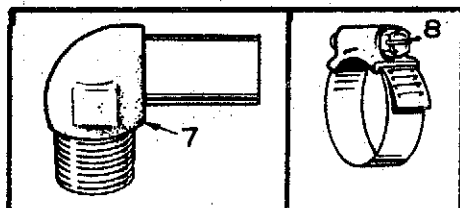
+ - For component parts, refer to separate group.

SPECIAL PARTS FOR KEEL COOLING MODELS (OPTIONAL EQUIPMENT)



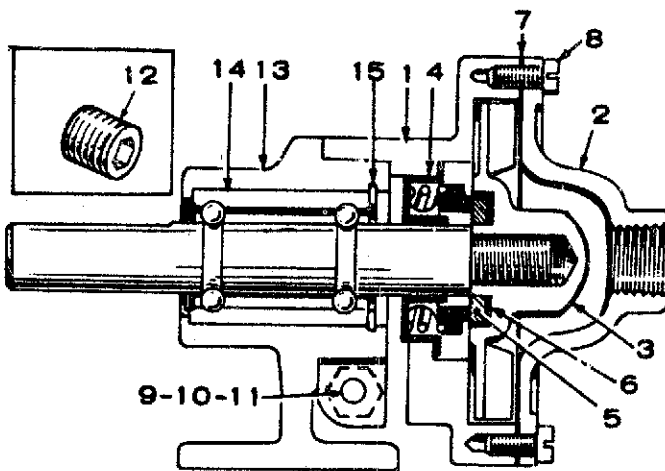
REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
1	BRACKET, WATER PUMP AND GOVERNOR SPRING		
	130-0587	1	Spec A through Q
	130-0692	1	Begin Spec R
2	132-0074	1	*Pump, Water - Less Pulley
3	131-0144	1	Bar, Pump Hold-down
4	512-0042	1	Pulley, Water Pump
5	511-0068	1	Belt, Water Pump Drive
6	502-0250	1	Elbow, Outlet - Brass - Pump
7	502-0278	1	Elbow, Pump Inlet - Brass
8	503-0183	2	Clamp, Hose
9	503-0445	1	Hose, Rubber - Pump to Block
10	130-0591	1	Guard, Belt
11	PULLEY, FLYWHEEL		
	104-0449	1	Spec A through F
	104-0550	1	Begin Spec G
12	SCREW, HEX CAP		
	800-0003	4	Belt Guard Mounting
	800-0026	2	Bracket to Starter Flange
	800-0004	2	Bracket to Backplate
	800-0005	2	Water Pump Mounting
13	WASHER, LOCK		
	850-0040	4	Belt Guard Mounting
	850-0045	2	Bracket to Starter Flange
	850-0040	2	Bracket to Backplate
	850-0040	2	Water Pump Mounting

* - For component parts, refer to separate group.



WATER PUMP PARTS GROUP(132B110)

NOTE: This pump used on plants with heat exchanger only.



REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
	132-0110	1	Pump, Water - Complete
	132-0111	1	Repair Kit (Includes Parts Marked *)
1	132-0136	1	Body, Pump
2	132-0137	1	Cover, Pump
3	132-0114	1	*Impeller
4	132-0101	1	*Seal
5	132-0091	1	*Face, Wear
6	132-0092	1	*Seat, Seal
7	132-0112	1	*Gasket, Cover
8	132-0113	6	*Screw, Cover
9	132-0138	1	Screw, Cap
10	132-0139	1	Lockwasher
11	132-0140	1	Nut, Hex
12	132-0141	1	Plug, Drain
13	132-0142	1	Pedestal
14	132-0089	1	*Shaft and Bearing Assembly
15	132-0132	1	Ring, Snap

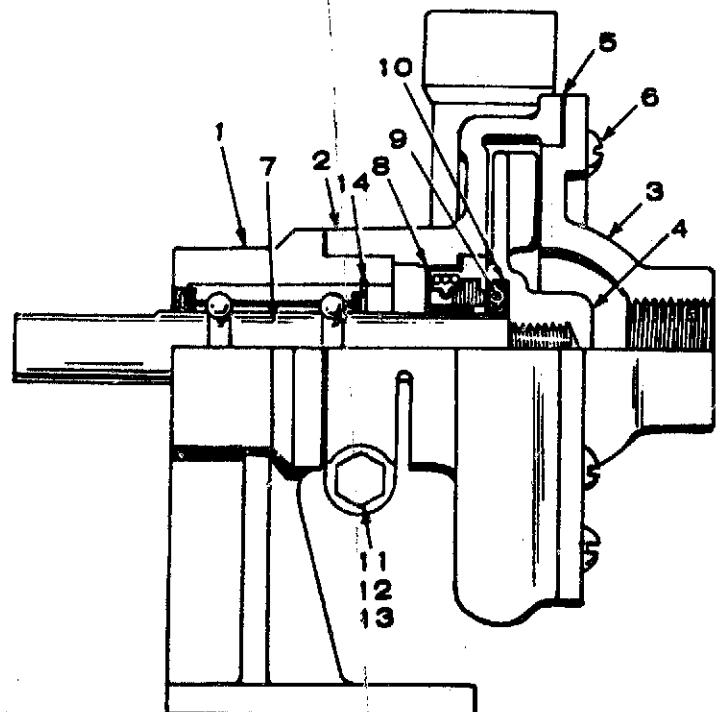
* - Parts included in the 132-0111 Repair Kit.

WATER PUMP PARTS GROUP(132C74)

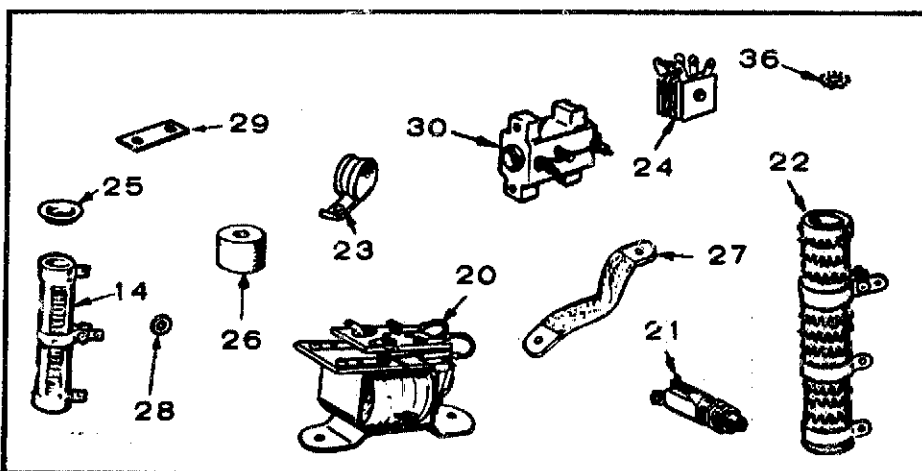
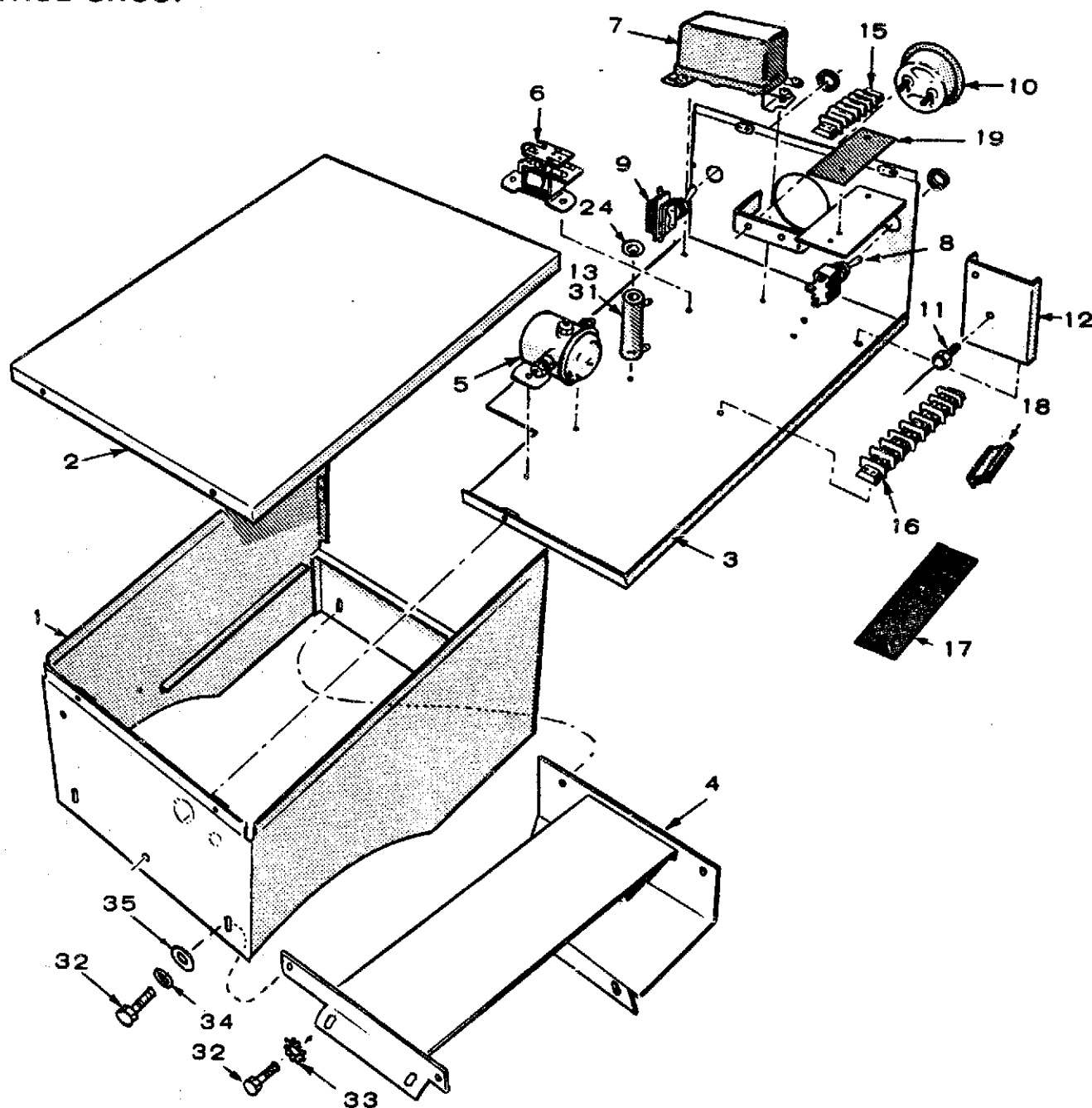
NOTE: This pump used on plants with keel cooling only.

REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
	132-0074	1	Pump, Water - Complete
	132-0093	1	Repair Kit (Includes Parts Marked *)
1	132-0143	1	Pedestal
2	132-0144	1	Body, Pump
3	132-0145	1	Cover, Pump
4	132-0087	1	Impeller
5	132-0088	1	*Gasket, Cover
6	810-0099	8	*Screw (#10-24 x 7/16"), Brass
7	132-0089	1	*Shaft and Bearing Assembly
8	132-0101	1	*Seal, Mechanical
9	132-0091	1	*Ring, Seal Wear
10	132-0092	1	*Cap, Wear Ring
11	132-0138	1	Screw, Cap
12	132-0140	1	Nut
13	132-0139	1	Lockwasher
14	132-0132	1	Ring, Snap

* - Included in the 132-0093 Repair Kit.



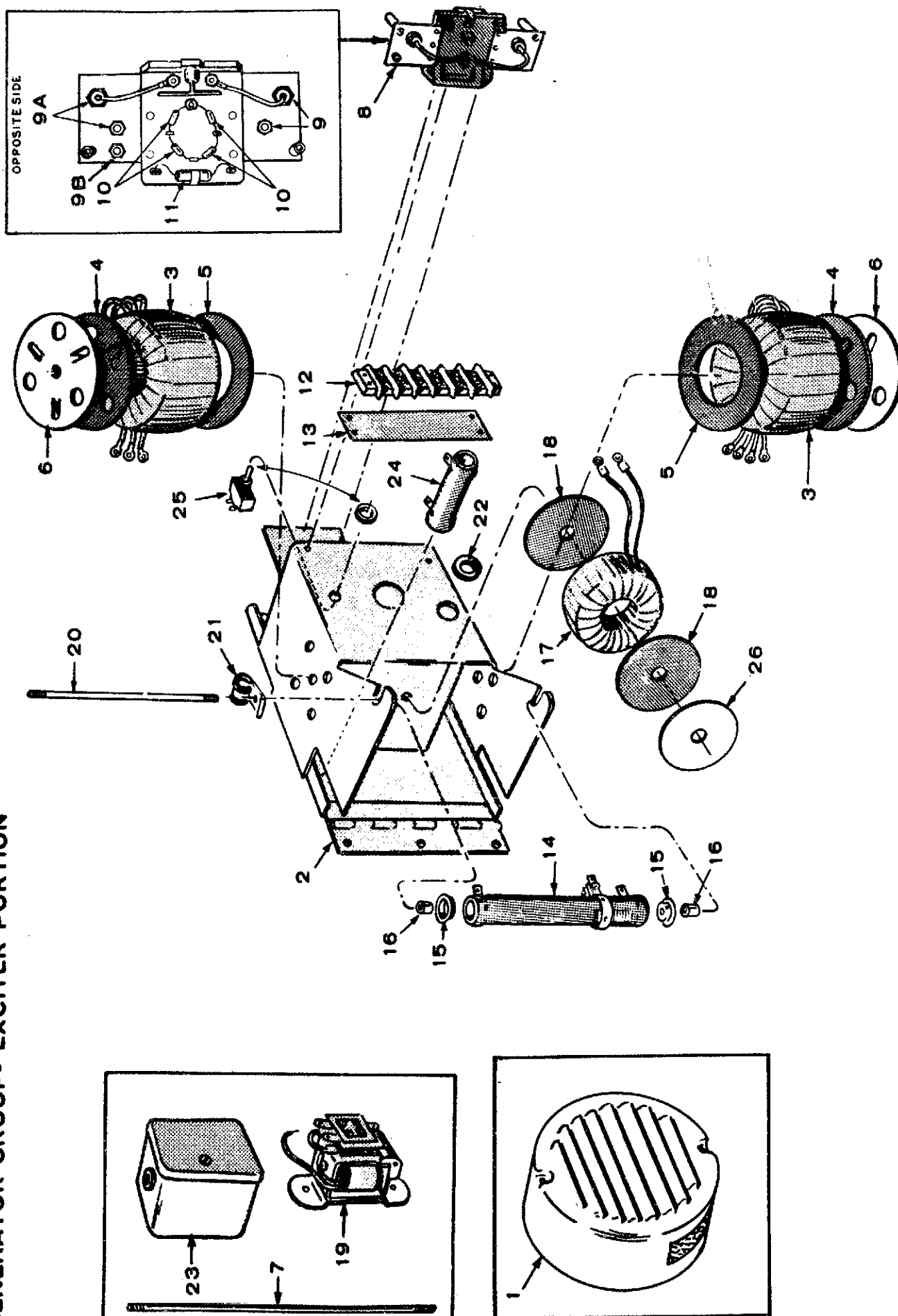
CONTROL GROUP



REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
1	301-1962	1	Box, Control
2	301-1963	1	Cover, Control Box
3	301-1961	1	Panel, Control Box
4	301-1968	1	Bracket, Control Box
5	SOLENOID, MANIFOLD HEATER AND START		
	307-1046	2	Key 1
	307-0061	2	Key 2
6	307-0623	1	Relay, Start Disconnect
7	307-0597	1	Relay, Start - Ignition
8	308-0154	1	Switch, Start-Stop
9	308-0037	1	Switch, Manifold Heater
10	302-0446	1	Ammeter, Charge (5-0-5)
11	RECTIFIER - 10 AMP, 100 VOLT PEAK		
	305-0235	1	Key 1
	305-0238	1	Key 2
12	305-0254	1	Bracket, Rectifier Mounting
13	304-0032	1	Resistor, Fixed - Key 1
14	RESISTOR, ADJUSTABLE		
	304-0005	1	Key 2 (150-Ohm, 25 Watt) - 9/16 x 2"
	304-0247	1	Key 2 (100-Ohm, 10 Watt) - 5/16 x 1-3/4"
15	332-0604	1	Block, Terminal (5 Place) - Key 1, 2
16	332-0706	1	Block, Terminal (8 Place) - Load
17	332-0739	1	Strip, Marker (4,5,6,7,8,9)
18	332-0750	1	Marker Strip & Wire Holder Kit, Battery Polarity - Key 1 - Spec A through N
19	332-0616	1	Strip, Marker (B+, 1, 2, 3, H)
20	307-0614	1	Relay, Latching - Units with Low Oil Pressure Cut-Off Switch - Spec A through E
21	308-0091	1	Switch, Reset - Units with Low Oil Pressure Cut-Off Switch - Spec A through E

REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
22	RESISTOR, TAPPED ADJ. (MOUNTS IN GENERATOR AIR OUTLET)		
	304-0500	1	Key 1
	304-0534	2	Key 2
23	332-0052	1	Clip, Tinnerman
24	305-0197	1	Rectifier, Full Wave - Units with Low Oil Pressure Cut-Off Switch - Spec A through E
25	304-0006	2	Washer, Resistor Centering
26	402-0078	4	Mount, Rubber - Control Box
27	337-0036	1	Strap, Ground - Control Box to Generator
28	508-0001	1	Grommet, Rubber - For 1-1/16" Hole
29	332-0602	1	Jumper, Heater Solenoid to Start Solenoid
30	320-0104	1	Switch, Emergency Reset - Units with Low Oil Pressure Cut-Off Switch - Begin Spec F
31	RESISTOR, FIXED (1-OHM, 10 WATT) - UNITS WITH LOW OIL PRESSURE CUT-OFF SWITCH		
	304-0217	1	Key 1 - Begin Spec F
	304-0003	1	Key 2 - Begin Spec F
32	SCREW, HEX CAP		
	815-0236	4	Control Box Bracket Mounting
	800-0024	4	Control Box Mounting
33	856-0008	4	Washer, Shakeproof - Control Box Bracket Mounting
34	850-0045	4	Washer, Lock - Control Box Mounting
35	526-0115	4	Washer, Flat - Control Box
36	WASHER, SHAKE PROOF - GROUND STRAP MTG.		
	856-0006	1	1/4" Size
	856-0008	1	5/16" Size

GENERATOR GROUP- EXCITER PORTION



REF. NO.	QTY. USED	PART DESCRIPTION	PART NUMBER					
			02SX INIA	04SX INIA	04SX INIB	04SX IN3B	06SX5 INIB	06SX5 IN3B
	1	Exciter Complete (Less Cover)	209-0001	209-0002	209-0003	209-0005	209-0012	209-0013
1	1	Cover, Exciter	234-0154	234-0154	234-0185	234-0185	234-0185	234-0185
2	1	Panel Only, Exciter	234-0153	234-0153	234-0188	234-0188	234-0188	234-0188
3	2	Reactor, Gate	315-0084	315-0099	315-0099	315-0099	315-0104	315-0104
4	2	Gasket, Gate Reactor Mounting, Outer	232-1553	232-1553	232-1553	232-1553	232-1553	232-1553
5	2	Gasket, Gate Reactor Mounting, Inner	232-1551	232-1551	232-1551	232-1551	232-1551	232-1551
6	2	Retainer, Gate Reactor	232-1552	232-1552	232-1552	232-1552	232-1552	232-1552
7	1	Stud, Gate Reactor Mounting	520-0211	520-0211				
8	1	Rectifier Assembly, Resistor and Complete	305-0242	305-0259	305-0259	305-0387	305-0264	305-0388
9	2	Rectifier Only, Power Field, Negative	305-0238	305-0238	305-0238	† 305-0238	305-0238	† 305-0238
9A	2	Rectifier Only, Power Field, Positive	305-0239	305-0239	305-0239	305-0239	305-0239	305-0239
9B	1	Rectifier, Field Flash				305-0239		305-0239
10	4	Rectifier, Voltage Control	305-0240	305-0240	305-0240	305-0240	305-0240	305-0240
11	1	Resistor, Included in Rectifier Assembly (150-Ohm, 5 Watt)					304-0512	304-0512
11	1	Resistor, Included in Rectifier Assembly (500-Ohm, 5 Watt)	304-0476	304-0476	304-0476	304-0476		
12	1	Block, Terminal	332-0699	332-0699	332-0745	332-0745	332-0745	332-0745
13	1	Strip, Block Marker	332-0700	332-0738	332-0746	332-0925	332-0746	332-0925
14	1	Resistor, Fixed (200-Ohm, 50 Watt)	304-0489					
14	1	Resistor, Tapped, 500-Ohm (425 Fixed, 75 Adj.)		304-0511				
14	1	Resistor, Tapped, 500-Ohm (425 Fixed, 75 Adj.)						
15	4	Washer, Resistor Centering (Two Only Used for 02SX INIA)			304-0527	304-0527	304-0527	304-0527
16	2	Spacer, Resistor Mounting	304-0015	304-0015	304-0015	304-0015	304-0015	304-0015
17	1	Reactor, Voltage Control	232-1550	232-1550	232-1474	232-1474	232-1474	232-1474
18	2	Gasket, Voltage Control Reactor	315-0085	315-0100	315-0100	315-0100	315-0105	315-0105
19	1	Relay, Field Build-up	232-1548	232-1548	232-1548	232-1548	232-1548	232-1548
20	1	Stud (or Screw), Tapped Resistor Mounting	307-0584					
21	1	Clip, Tinnerman	812-0116	812-0116	520-0641	520-0641	520-0641	520-0641
22	1	Grommet, Rubber, For 7/8" Hole	332-0050	332-0050	332-0051	332-0051	332-0051	332-0051
23	1	Cover, Relay	508-0008	508-0008	508-0008	508-0008	508-0008	508-0008
24	1	Resistor, Fixed (250-Ohm, 25 Watt)	307-0643					
25	1	Switch, Residual Reset		304-0510	304-0510	304-0510	304-0510	304-0510
26	1	Washer, Retainer, Voltage Control Reactor		308-0175	308-0175		308-0175	
			526-0173	526-0173	526-0173	526-0173	526-0173	526-0173

† - Later Models use Quantity of three.

NOTE: All 5.0MDJB Units used 06SX5INIB Spec A through K and 06SX5IN3B Begin Spec L (except 5.0MDJB-55DR used 06SX5INIB). 6.0MDJB Units used 02SX INIA Spec A and B, 04SX INIA Spec A through F, 04SX INIB Spec G through K and 04SX IN3B Begin Spec L (except 6.0MDJB-5DR used 04SX INIB). Check your unit nameplate for correct manufacturer number. Select the correct Part Number.

SPECIAL PARTS LIST FOR MODEL 6.0MDJB-3CR SPEC 3945S
 FOR STANDARD PARTS REFER TO CATALOG 968-0321 KEY NO. 1
 (PARTS CATALOG ALSO CONTAINS COMPONENTS FOR MAJOR OPTIONAL FEATURES LISTED BELOW)

WIRING DIAGRAM NO. (ENG) 611-0934-01

PART NO.	QTY.	DESCRIPTION	PART NO.	QTY.	DESCRIPTION
123-1283	1	Baffle, Breather Tube			
509-0132	2	Seal Assembly, Oil - Intake Valve - (Includes Retainer Rings)			
104-0594	1	Cover, Flywheel Guard			
220-1226	1	Stator Assembly, Wound			
211-0152	1	Bell, End			
150-0956	1	Switch Assembly, Overspeed			
150-0958	1	Bracket & Point Assembly, Overspeed			
234-0197	1	Cover, End Bell			
332-0751	1	Block, Terminal (10 Place)			
332-1235	1	Strip, Marker - Terminal Block			
301-2376	1	Panel, Control Box			
320-0221	1	Relay, Low Oil Pressure			
322-0069	2	Holder, Pilot Lamp			
322-0004	2	Lamp, Pilot - (1) Low Oil Pressure Cut Off (1) Overspeed Cut Off			

SPECIAL PARTS LIST FOR MODEL 6.0MDJB-3CR SPEC 10142S
 FOR STANDARD PARTS REFER TO CATALOG 968-0321 KEY NO. 1
 (PARTS CATALOG ALSO CONTAINS COMPONENTS FOR MAJOR OPTIONAL FEATURES LISTED BELOW)

WIRING DIAGRAM NO. (ENG) 611-0934-01

PART NO.	QTY.	DESCRIPTION	PART NO.	QTY.	DESCRIPTION
Keel Cooling					
502-0304	1	Elbow, Adapter - Raw Water Pump Outlet (90°)			
502-0300	1	Elbow, Adapter - Captive Water Pump Outlet (90°)			
502-0085	1	Nipple, Close - Block Water Inlet			
502-0298	1	Elbow, Brass - Block Water Inlet (45°)			
502-0258	1	Nipple, Half - Block Water Inlet (3/8 X 2)			
503-0159	2	Hose, Water Pump (34")			
503-0446	3	Clamp, Hose			
123-1283	1	Baffle, Breather Tube			
509-0132	2	Seal Assembly, Oil - Intake Valve (Includes Retainer Rings)			
104-0594	1	Cover, Flywheel Guard			
220-1226	1	Stator Assembly, Wound			
211-0152	1	Bell, End			
150-0956	1	Switch Assembly, Overspeed			
150-0958	1	Bracket & Point Assembly, Overspeed			
234-0197	1	Cover, End Bell			
332-0751	1	Block, Terminal (10 Place)			
332-1235	1	Strip, Marker - Terminal Block			
301-2376	1	Panel, Control Box			
320-0221	1	Relay, Low Oil Pressure			
322-0069	2	Holder, Pilot Lamp			
322-0004	2	Lamp, Pilot - (1) Low Oil Pressure Cut Off (1) Overspeed Cut Off			

SPECIAL PARTS LIST FOR MODEL 5.0JDB-53CR SPEC 10/198FOR STANDARD PARTS REFER TO CATALOG 968-0321 KEY NO. 2

(PARTS CATALOG ALSO CONTAINS COMPONENTS FOR MAJOR OPTIONAL FEATURES LISTED BELOW)

WIRING DIAGRAM NO. (ENG)611-0722-01

PART NO.	QTY.	DESCRIPTION	PART NO.	QTY.	DESCRIPTION
Heat Exchanger					
123-1283	1	Baffle, Breather Tube			
509-0132	2	Seal Assembly, Oil - Intake Valve - (Includes Retainer Rings)			
104-0594	1	Cover, Flywheel Guard			
220-0907	1	Stator Assembly, Wound			
353-0007	1	Resistor, Fixed - Generator Exciter - (5.5 Ohm, 50 Watt)			
Note: 32 Volt Cranking And Battery Charging In Place Of Standard					